

INTERNATIONAL CARTELS

BY

Ervin Hexner

WITH THE COLLABORATION OF
ADELAIDE WALTERS



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Abbreviations

The following list of abbreviations contains the most commonly used abbreviations. The shortened titles of public documents and abstracts are given in Appendix X at the back of this volume. Other abbreviations may be found in the Index.

c.i.f.	Price includes cost, insurance, and freight
Du Pont	E. I. du Pont de Nemours & Company (United States)
f.o.b.	Free on board
ICI	Imperial Chemical Industries, Limited (Great Britain)
IG	I. G. Farbenindustrie, A. G. (Germany)
ILO	International Labour Office
Jersey	Standard Oil Company of Jersey
Shell	The Royal Dutch Shell Concern
TNEC	Temporary National Economic Committee

Preface

FOR CENTURIES private entrepreneurs in one way or another have co-operated in international economic intercourse. This co-operation is at present one of the storm centers of political and economic discussions. There are those who would like to follow the legendary example of Alexander the Great, who, faced with an intricate knot that no one had been able to untie, cut it with one blow of his sword. Others doubt whether bold and radical processes would lead to the desired end. I do not suggest that radical reasoning and action in cartel issues should be avoided. But any solution of the cartel problem hinges on a realization that the issue involves a multitude of knotty problems, and that before really effective cutting can be done, it is necessary at least to know what is to be cut.

Many serious statesmen and scholars regard the co-operation of entrepreneurs on international markets as necessarily undermining political democracy in both the national and international fields. It is frequently assumed that cartels have to be suppressed, and cartel problems accordingly are "cut" out as possible alternatives. Thus the eradication of the cartel danger is made to appear only as a task of legal and political technique, one that once it is "cut" will not reappear, willy-nilly, in one form or another in future international economic intercourse.

If cartels are by nature enemies of democracy, if there is conclusive evidence that cartels tend to destroy democracy, then it is of no importance whether there are laudable exceptions to this general rule. Even though it were proved that cartels under certain circumstances are economically advantageous, this could have no weight.

The fact that international marketing unions, and those who manage them, would have no intention of damaging or destroying democ-

racy, would have no significance. The real problem is whether cartels, that is, the collective behavior of private entrepreneurs in international markets, necessarily work against democracy. If this is the case there can be no question but that the sentence of death for cartels is justified.

There is sufficient empirical material to show that frequently entrepreneurial co-operation on international markets was used to wage political warfare and to exert economic pressure, and may be so abused in the future. However, more research and consideration are needed, in the opinion of many, in order to arrive at all-comprehensive generalizations.

Those who are familiar with discussions of international cartels in newspaper reports, parliaments, scientific publications, and elsewhere know that three solutions have been advanced to solve these vexing issues. First, the substitution for private marketing controls of international public agencies operating according to principles agreed upon by the governments of the countries concerned. Second, the outright abolition of private international marketing schemes by action comparable to an international Sherman Act. This second solution implies the existence of workable alternatives that themselves will not destroy competition in international trade. Third, the toleration of co-operation of private entrepreneurs in international markets with public regulation of their operations.

This book makes no attempt to offer an ultimate solution to these much-debated questions. It attempts to present a broad survey of international cartels in the period immediately preceding the Second World War. Over one hundred more or less fragmentary case studies have been assembled to convey the idea of the extent to which collective market-control mechanisms of private entrepreneurs operate in international economic intercourse. These cartel descriptions are preceded by general chapters presenting the results of observation and reasoning based on studies and experience reaching back more than two decades. No tricks of rhetoric are necessary to indicate that arguments about "what ought to be" in this passionately discussed field have to be founded on "what is" and "what may be." My purpose in this volume is to supply the reader with as comprehensive a discussion as I could manage with the limited time and the data at my disposal. Several cartel agreements which are illustrative of the actual organization and operation of large international combinations, as well as other source material, are included in the Appendices for the convenience of the reader.

The problem of international cartels can be viewed, of course, only in a past, present, or future political setting. There can be no doubt that the question of the social desirability of this market-control mechanism in the future is only a small part, but a significant and sensitive part, of much broader and still undetermined political and economic problems. Present confusion on this subject would be narrowed down considerably if our thinking were clarified on the principal problems of future political and economic intercourse. It would help, too, if we knew what is controllable and what is not in this field. Both fatalistic resignation and sunny optimism may be sobered by thorough investigation of facts.

The interests of democracy and of a healthy world order seem to require co-operating national economies, large-scale employment maintained by the political will of nations, co-operatively stabilized currencies, the elimination of Nazi methods, and the clarification of business ethics in postwar international intercourse. This, I believe, is the direction in which people generally are determined that new trade shall move. This, I believe, is a possible and desirable direction. In such a world, some of the old features, now almost gone, may be revived. There would seem to be more room for and need of the genuine risk-bearing entrepreneur, able to operate successfully without tending always to vest his rights in rigid coalitions. If the benefits of technological progress are to be spread to the masses, new forms of entrepreneur unions aiming at balanced expansion would seem also to be required. However, public opinion will justifiably oppose marketing co-operation of entrepreneurs that obstructs balanced expansion of national or international trade or blocks technological progress.

In a thorough discussion of cartels most of the typical problems of modern business as they bear on peace and war, democracy and dictatorship, individualism and collectivism would have to be considered. I have found it impossible here to deal in more than cursory fashion with the wider implications of the subject.

I have borrowed in this volume material from my previous cartel studies, especially from *The International Steel Cartel*. As I have secured new information I have found it necessary at some points to modify or contradict former statements of my own.

I acknowledge the assistance of many individuals and public and private agencies in supplying me with source material. To my associate in preparing the case studies, Mrs. Adelaide Walters, I am particularly indebted for collaboration, counsel, and criticism. I am also

obligated to the staff of The University of North Carolina Press for help on the manuscript. The work of the Press far transcended the usual editorial assistance of publishers.

E. H.

Chapel Hill
December 29, 1944

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Bones and bone glue	Lead compounds	Sulfuric acid
Borax and boric acid	Nitrogen	Synthetic resins
Calcium carbide	Opium	Synthetic rubber
Camphor	Oxalic acid and	Titanium compounds
Cellophane	formic acid	Vitamin D
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storage	(tungsten carbide)	Railroad cars
Buttons	Household appliances	Rayon
Cement	Linen thread	Rubber-thread
Dental supplies	Linoleum	Submarines
Electric cables	Matches	Typewriters
Incandescent electric	Motion picture	Watches
lamps	film and equipment	Wood pulp (sulphite,
Electrical apparatus	Optical goods	mechanical, and
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PART ONE

GENERAL CONSIDERATIONS

CHAPTER I

Introduction

I

THE WORD CARTEL, though centuries old, was first used in the year 1879 to designate private market-control mechanisms of entrepreneurs. Beginning with its first use¹ to specify an economic pattern it has carried a derogatory flavor and this has up to the present time accompanied the term and the meaning it is supposed to convey. The way in which the term "cartel" has been used has added perplexity to the many issues involved in the problem of restraint of trade of entrepreneurs.

It has frequently been assumed that the cartel movement was born in the 1870's in Central Europe because in that period the term "cartel" was first used to designate entrepreneur unions in Germany. However, economic history furnishes innumerable examples of entrepreneur co-operation on national and international markets. These institutions operated in various forms and degrees, along with various patterns of competition. According to a well-known scholar, "The cartel movement remained until the [First] World War a specific German and Austrian affair; Anglo-Saxon and French economics treat cartels only as something far astray, as an alien, German phenomenon. That is why German scientific research felt itself charged with the task to develop, and elaborate on, a cartel doctrine."² And an Austrian author

¹ Eugen Richter first used the term cartel publicly on May 3, 1879, in a meeting of the German Reichstag. He employed this term to designate dealings of rail, truck, and locomotive producers by which domestic purchasers were charged higher prices than were foreign buyers. Cf. Robert Liefmann, *Cartels, Concerns and Trusts* (New York, 1933), p. 19.

² Arnold Wolfers, *Das Kartellproblem im Lichte der Deutschen Kartell-literatur* (*Schriften des Vereins für Sozialpolitik*, Vol. 180, Part 2; Munich, 1931), pp. 1 ff. The excellent studies published in this field by Francis A. Walker, E. Benjamin Andrews, Richard T. Ely, J. B. Clark, J. M. Clark, J. W. Jenks, W. Z. Ripley, W. S. Stevens, L. H. Hancy, and many others show that considerable factual research and speculation

boldly set the birthday of the cartel movement on a fixed day, May 9, 1873.³ Gustav von Schmoller declared in 1905 that the advent of cartels marked the beginning of a new era in economic development and that it would perhaps lead to a socialistic structure of the state.⁴

From the point of view of this study the dispute about the birthday of cartels seems insignificant.⁵ It gains, however, indirect significance because up to the First World War the expression cartel was used only to mean collective market controls in Central Europe.⁶ Because of this usage, many people still believe that this economic pattern did not exist in other countries of the globe. The forms of private market control certainly have not been the same everywhere. For instance, the European Continental type of common sales syndi-

on industrial combination was done before the First World War in the United States, although not under the name "cartel" research. A comprehensive survey of American cartel literature is contained in several bibliographies published by the Library of Congress; in M. W. Watkins', *Industrial Combinations and Public Policy*, New York, 1927; Eliot Jones's, *The Trust Problem in the United States*, New York, 1921; and William Notz, "Amerikanische Kartell-Literatur," in Emil Lederer (ed.), *Das Kartellproblem (Schriften des Vereins für Sozialpolitik)*, Vol. 180; Munich, 1930), pp. 1 ff.

³ "On May 9, 1873, when the death-knell announced the end of the period of 'economic prosperity' the chimes heralded the birth-hour of cartels." Bruno Schoenlank, "Die Kartelle," *Archiv für Sociale Gesetzgebung und Statistik*, III (1890), 493.

⁴ "Das Verhältnis der Kartelle zum Staate," *Schriften des Vereins für Sozialpolitik*, Vol. 116 (1905), p. 237.

⁵ A good survey of pertinent literature and of the history of cartellization is contained in Roman Piotrowski, *Cartels and Trusts* (London, 1933), pp. 11 ff.; and Arnold Wolfers, *op. cit.*, pp. 5 ff. See also J. W. Jenks, *The Trust Problem*, Garden City, 1914. This author did not use the expression cartel at all, even in discussing European combinations. The 1913 edition of *Webster's New International Dictionary* listed the several meanings of the word cartel in political relations, but it failed to indicate its meaning as an economic mechanism. Alfred Marshall in 1920 designated regulative federations (or associations) "the functions of which are to control the prices, the amounts produced, and the methods of marketing of its various members; and in some cases to conduct their marketing for them" as cartels (*Industry and Trade* [London, 1920], p. 216). He differentiated between tight cartels ("restrictive combination of the German type") and looser British cartels. According to Marshall, "British associations or cartels are less under the influence of military discipline and generally less harsh in their methods than German; but their task is increased by the presence of many old firms with inherited plant and traditions."—*Ibid.*, p. 621.

⁶ The organization and policies of I. G. Farben were often discussed with reference to the Second World War. The pattern of its structure was often designated as typically German. This applies particularly to political penetration methods. The founder of IG, Carl Duisberg, reported that during his trip to the United States, in 1903, he became so deeply impressed by the American trust development, which succeeded in uniting competing entrepreneurs, that after his return to Germany in 1904 he informed his competitors in a comprehensive memorandum about his experiences in America. This memorandum laid the foundations of the I. G. Farbenindustrie. See Carl Duisberg, *Meine Lebenserinnerungen* (Leipzig, 1933), pp. 88-89. The memorandum of January, 1904, is reprinted in Carl Duisberg, *Abhandlungen, Vorträge und Reden aus den Jahren 1882-1921* (Berlin, 1923), pp. 345-69.

cate did not gain a foothold in the United States, especially after the enactment of the Sherman Act.⁶ In a limited sense, statements like that of Eugene G. Grace, that the cartel structure "cannot be constructively adapted to American domestic life and activities,"⁷ are not unfounded. The American form of entrepreneur co-operation on national and international markets has allowed much more initiative and involved much more risk-bearing than have those forms used in European countries.

There is no question but that there are still many branches of industry and trade in the United States not subject to any collective market control. However, one may safely state that collective market controls have been exercised by private entrepreneurs from early times and in recent decades have become of tremendous importance all over the world.⁸

⁶ President Roosevelt well recognized this distinction when he expressed fears that European cartel models might be followed by American entrepreneurs. He wrote in a Message to Congress on April 20, 1938, prompting the establishment of the TNEC: "Private enterprise is ceasing to be free enterprise and is becoming a cluster of private collectivism; masking itself as a system of free enterprise after the American model, it is in fact becoming a concealed cartel system after the European Model." D. H. Robertson clearly saw this characteristic in 1923. He designated the "central selling agency" as one type of cartel, most prominent in Germany, but customary in England as well (*The Control of Industry* [New York, 1923], p. 52). The resemblance of the agricultural co-operative movement with cartels is discussed in *ibid.*, p. 54.

⁷ TNEC, *Hearings*, Part 19, p. 10632.

⁸ The relevance of the matter to the United States' industry has received recognition several times by legislative bodies. It was discussed with great candor as the following dialogue between Professor Jenks and Charles M. Schwab (*Report of the Industrial Commission on Trusts and Industrial Combinations* [Washington, 1901], XIII, 474), which took place at the beginning of the century, indicates: "Question by Mr. Jenks: 'You spoke in reply to one of the earlier questions to the effect that there were sometimes apparently agreements between the officers of the different competing companies, so that they sold at the same rates, Pittsburgh and Chicago to certain places. Will you speak briefly with reference to previous pools as they existed before the organization of this company?' Mr. Schwab: 'The steel-rail pools, as so-called, were simply agreements between the managers at the various works to sell at the same price at the same point.' Question: 'For manufacturers before the organization of the United States Steel Corporation, were similar arrangements existing?' Mr. Schwab: 'Yes, in all lines of business, not only in steel, but everything else. There were similar agreements, known as joint agreements, to maintain prices. They have existed in all lines of business as long as I can remember.' Question: 'Without any distribution of profits?' Mr. Schwab: 'There were sometimes questions as to distribution of territory.'" According to *Fortune*, September, 1942, p. 105, "Many sophisticated arguments are put forth in this country for the cartel form of doing business—usually in the same breath with stout denials that anything like a cartel ever existed in the U. S. . . . Most of the arguments start from the plea of necessity, and retreat by stages into opportunism and outright cynicism." The National Association of Manufacturers considered the statement that "competition is no longer effective" in American industry as one of the "fallacies" of the American private-enterprise system (See *Fallacies About Our Private*

According to a statement of Alfred Marshall, "In Adam Smith's time, England was full of trade combinations, chiefly of an informal kind, indeed, and confined to very narrow areas; but very powerful within those areas, and very cruel."⁹ However, in the United Kingdom "cartels" (in the sense of collective market controls of private entrepreneurs) frequently have been regarded as peculiar Continental institutions.¹⁰ According to Patrick Fitzgerald, not many years ago the whole industrial combination movement was looked upon in England as "purely alien."¹¹ The relegation of the cartel into the

Enterprise System (Pamphlet) [New York, 1941], pp. 30 ff.). The National City Bank of New York, reviewing part of the work done by the TNEC, expressed the following opinion in the July, 1941, issue of its Bulletin, *Economic Conditions, Government Finance, United States Securities*: "Moreover, anybody who has had industrial experience knows that monopoly in this country is much more a political bugaboo than a reality; for in every industry we see signs of vigorous competition which has steadily reduced prices . . ." (p. 82). According to Benjamin F. Fairless, "Competition is very keen in the steel industry, and it is terrifically keen in times of falling off of orders."—TNEC, *Hearings*, Part 19, p. 10525.

⁹ Cf. "Some Aspects of Competition," *Memorials of Alfred Marshall*, ed. A. C. Pigou (London, 1925), p. 267. See also Hermann Levy, *Monopolies, Cartels and Trusts in British Industry* (London, 1927), *passim*. In the first English edition of this book (1911), Dr. Levy frequently uses the term "cartel" in discussing English marketing controls. According to the late Sir Alfred Mond (Lord Melchett), ". . . the system of cartels goes back for a very long period of industrial activity, and there was a time when they were not received with all the paeans of praise which they receive today."—*Industry and Policies* (London, 1928), p. 222. It may be interesting to reprint how the *Dictionary of Political Economy* (London, 1919), I, 229, explains the term cartel. "Cartel means, in international law, the terms of agreement between belligerents for the exchange or ransom of prisoners. The 'cartel' of chivalry meant first of all the terms of a combat, and then simply the challenge; and the second is still its ordinary meaning on the Continent. By analogy, the word Kartell is now often used by German economists to denote a trust, i.e. an agreement between rival merchants to limit production or otherwise temper the extremity of competition; so in 1889 it was used of the suspension of hostilities between conservative and liberal parties in view of the common defence of the empire." J. S. Mill attributed to British-American political economists peculiar properties, contrasting them with economists of other countries. "In political economy for instance," writes Mill, "empirical laws of human nature are tacitly assumed by English thinkers, which are calculated only for Great Britain and the United States. Among other things an intensity of competition is constantly supposed, which, as a general mercantile fact, exists in no country in the world except these two."—*System of Logic* (Longmans, London, 1936), VI, 591.

¹⁰ Cf., e.g., W. Tudor Davies, *Trade Associations and Industrial Co-ordination* (London, 1938), pp. 75 ff.

¹¹ *Industrial Combination in England* (London, 1927), p. 1. Those few who do not realize what the designation of an institution as "alien" connotes all over the world may read the answers of the students of a well-known New England college to a class problem presented to them. According to a letter published in *The New Republic*, December 29, 1920, p. 142, students defined the meaning of "alien" as follows: "A person hostile to this country," "a person against his government," "a person who is on the opposite side," "a native of an unfriendly country," "a foreigner who tries to do harm to the country he is in," etc.

realm of Continental European concepts reminds one of the young Queen Victoria's question to her Secretary of State for Foreign Affairs regarding the meaning of the strange term "bureaucracy." Lord Palmerston, whom experts regard as the "archbureaucrat of all times in Britain," assured the eighteen-year-old Queen, in 1836, that "bureaucracy was a phenomenon exclusively continental."¹²

The term cartel has been used in the United States in public discussions and scientific publications in the traditional sense to mean collective market controls of private entrepreneurs.¹³ At times it is now used to include other combinations as well. Frequently the term has been surrounded "with a strange aroma suggesting some new social disease,"¹⁴ and labeling a collective market control "cartel" has almost invariably been to present it in an unfavorable light. As the *New York Times* put it, "The word cartel has become the label for something 'bad.' As an emotional symbol, it calls for the response of a 'secret,' 'un-American,' 'contract with foreigners.'"¹⁵ No further explanation is necessary of why Webb-Pomerene associations, which are exempted from the restrictions of the Sherman Act, avoided calling themselves "cartels."¹⁶

Even in Europe no important domestic marketing control of private entrepreneurs has named itself cartel; and what is more important, no international cartel of any significance has carried this term

¹² Quoted from Sir Cecil Thomas Carr, *Concerning English Administrative Law* (New York, 1941), p. 1.

¹³ For instance, the TNEC used it in that sense. See TNEC, *Hearings*, Part 25, p. 13307. Karl Pribram, e.g., used the term cartel simply to designate collective market controls. Cf. his *Cartel Problems* (Washington, 1935), *passim*; so did Elizabeth S. May, J. W. F. Rowe, Alex Skelton, Donald H. Wallace, W. Y. Elliott, *International Control in the Non-Ferrous Metals*, New York, 1937 (hereafter cited W. Y. Elliott *et al.*, *International Control*); and C. K. Leith, J. W. Furness, Cleona Lewis, *World Minerals and World Peace*, Washington, 1943 (hereafter cited C. K. Leith *et al.*, *World Minerals*).

¹⁴ William Benton, "Cartels and the Peace," *The University of Chicago Round Table*, No. 277 (July 11, 1943), p. 1.

¹⁵ *The New York Times*, September 14, 1943, p. 16. According to Corwin D. Edwards, Thurman Arnold did not usually employ the term cartel to cover domestic combinations of American entrepreneurs; he spoke rarely of "domestic cartels." Edwards says that the term cartel has been used by the Antitrust Division of the Justice Department to designate international arrangements only because of the "foreign flavor" of the word. See "Thurman Arnold and the Antitrust Laws," *Political Science Quarterly*, September, 1943, p. 344. Alexander V. Dye, an expert on American domestic and foreign trade, said that he knows of no cartels operating in the United States (House of Representatives, Subcommittee on Foreign Trade and Shipping, Special Committee on Post-War Policy and Planning, 78th Congress, 2d Session; and 79th Congress, 1st Session, *Hearings* [hereafter cited *Post-War Planning Hearings*], Part 4, p. 869).

¹⁶ William Notz, *op. cit.* p. 29, did not hesitate to call Webb-Pomerene associations "export cartels."

in its name. The League of Nations in its cartel discussions and documents generally used expressions such as "industrial agreements."¹⁷ The European public frequently considered cartels the best alternative in the organization of certain branches of business. It was felt that under government supervision to which they were always subjected cartels could operate without violating public interest. In spite of this, however, a large section of European public opinion looked upon cartels with antipathy and suspicion. Perhaps the best illustration of this point is the bitter complaint of the chairman of the Board of I. G. Farbenindustrie in 1929, published in a German journal, which states that "Cartels, concerns and trusts are at present thoroughly unpopular. A large part of the public is afraid of monopolistic tendencies and of the striving of industries for power. The Government, in forming its economic policy, assumes that it has to deal with this anxiety of people by enacting a network of regulations, called cartel legislation. And despite such regulations, these industrial combinations are the consequence of necessity. Doubtless, the underlying idea of their establishment is thoroughly economic, the need to economize."¹⁸

In France, in 1926, when the establishment of the first International Steel Cartel was widely discussed as an event of great political importance, one author noted with indignation that the public falsely called the *Entente Internationale de l'Acier* a "cartel" although it was "only" an "entente." He found that the mere designation "cartel" prejudiced the sentiments of French economic and political circles against the new steel combination.¹⁹ Likewise in several other countries even at present the distinction is made between collective marketing schemes which may be, and those which may not be, called cartels. Professor Clair Wilcox, discussing American combinations, has distinguished cartels by a "strictest," "narrowest," and "widest" definition, according to the degree of cohesion among the participants.²⁰

We know from experience that economic units which, in line with traditional conceptions, could rightly be called cartels have substituted

¹⁷ *A Note on International Cartels*, League Document P.E.F., 19, dated August, 1944, is regarded as an exception.

¹⁸ Carl Duisberg, "Die Verbundenheit der Wirtschaft," *Kölnische Zeitung* (September 20, 1929), No. 515; reprinted in *Abhandlungen, Vorträge und Reden aus den Jahren 1922-1933* (Berlin, 1933), pp. 325 ff.

¹⁹ C. Nattan-Larrier, *La Production Siderurgique de l'Europe Continentale et l'Entente Internationale de l'Acier* (Paris, 1929), p. 301.

²⁰ TNEC, *Monograph 21*, p. 216.

in their names less significant words such as association, bureau, federation, entente, comptoir, convention, and agreement. Even in Germany, often regarded as the mother country of cartels, terms like *Verband*, *Gemeinschaft*, *Komptoir*, *Bureau*, *Vereinigung*, *Gesellschaft*, and *Konvention* have been applied. Although it seems somewhat ridiculous, the mere avoidance of the word cartel in their names has saved these national and international bodies from much adverse criticism. Our social life presents many examples of activities, professions, and situations designated by terms to which common usage attaches adverse sentiments. Consequently, the persons and groups involved substitute in their official names euphemisms that are amusingly transparent to those who know what the names mean. One may safely assume that even if conclusive evidence should be rendered that cartels are not under all circumstances and in all forms socially undesirable, it would be extremely difficult to attain that emotional adjustment of public sentiment under which the taboo on the term cartel could be removed. Allowances for the demonic force of the term must be made before intelligent discussion is possible.²¹ Unfortunately, many people who attempt to deal with the subject do not make this allowance. One obstacle would be overcome immediately if it were remembered that the word "competition" has not always been used with favor.²² Once the taboos and demons have been re-

²¹ Joseph A. Schumpeter emphasizes the conspicuous psychological problems involved in monopoly terminology. "Economists, government agents, journalists and politicians in this country love the word because it has come to be the term of opprobrium which is sure to rouse the public's hostility against any interest so labeled."—*Capitalism, Socialism and Democracy* (New York, 1942), p. 100. J. M. Clark put it thus: "As a first step, we shall need the revival of objective thinking. It will not do to regard a given action as monopolistic if done by people we do not like while the same action, if done by people we approve of, becomes an exemplar of 'the democratic process.'"—"Economic Adjustments after Wars: The Theoretical Issues," *Am. Econ. Review*, Supplement, March, 1942, p. 11. When in the investigation of the TNEC the chairman asked the economic advisor to the Committee what the common acceptance of the term cartel was, Professor Kreps replied: "There isn't any common acceptance." He went on to explain that what the cartel system means "depends in part on one's economic predilections, in part to one's political convictions."—TNEC, *Hearings*, Part 25, pp. 13039-40.

²² Frédéric Bastiat introduces his well-known chapter on competition with the statement that there is "no term within the whole vocabulary of political economy which has roused such a fury of modern reformers as the word 'competition.'" These reformers do not avoid attaching to competition at least the epithet "anarchical" in order to make it more odious.—*Harmonies Economiques* (Paris, 1851), p. 293. Professor F. N. Taylor bitterly complains about "a certain matter-of-course condemnation of such competition which has very wide vogue. Certain types of men talk and write with much eloquence about the wicked and unchristian character of competition, and roundly affirm that cooperation would be so much more human and Christian, meaning by cooperation this time, cooperation among *like* units, like producers."—*Principles of Eco-*

moved, there is some chance of dealing with the subject on a sound basis. One might better question: Are all private collective market-control schemes undesirable, or only those designated as cartels? Then it will be necessary to indicate which private collective marketing controls cannot be called cartels. It may sound strange, but neither friends nor enemies of cartels like such a clarification.

2

For any discussion of the future entrepreneur unions to have any chance to be fruitful the student must not begin by accepting as axiomatic the proposition that the co-operation of private entrepreneurs on international markets is necessarily an evil. His research may subsequently lead him to the conviction that all such structures are on the whole incompatible with the objectives and working methods of a desirable society. Such an investigation, of course, might possibly result in the discovery of conditions under which certain forms of entrepreneur unions could reasonably operate on international markets without endangering cherished social values. Future economic developments might make apparent that balanced expansion of international trade and technological progress requires certain forms of collaboration of entrepreneurs on markets. At any rate, even the outright abolition of international cartels can be dealt with more efficiently after a full investigation of past experience and future available alternatives.

When consumers or entire national economies are confronted with only one oppressive economic course, imposed by reckless economic groups, which has to be accepted willy-nilly, the hatred displayed against all kinds of international private and public monopoly can be well understood. These situations need full and adequate publicity to make possible a view of all features of monopolistic situations in detail. Sweeping generalizations and demagoguery make significant features of economic racketeering less discernible, to the joy of those who have every reason to avoid cool factual investigation. Conclusions drawn from single conspicuous cases and applied to international trade in general may distort the picture and lead to general indifference of public opinion.

It sounds incredible to the layman and the professional alike that our present doctrine of international trade is not based on abstractions

nomics (New York, 1921), p. 28. Alfred Marshall says that "the term 'competition' has gathered about it evil savour, and has come to imply a certain selfishness and indifference to the wellbeing of others."—*Principles of Economics* (London, 1920), p. 6.

drawn from a comprehensive body of experience which is the result of a thoroughgoing investigation of international markets of all significant commodities and services. Such is the case, however, and will remain so as long as empirical material in compact form is not available. This situation is sometimes ascribed to the secrecy of marketing arrangements, to the confidential nature of the data on actual returns, etc. Secrecy is no doubt a factor, but one may safely assume that efforts to collect and appraise the available source material have been insufficient. The comprehensive studies which are available are focused mainly on foodstuffs and raw materials. There are in existence very few studies analysing the international markets of semi-finished and manufactured commodities and technological processes. Furthermore, many studies do not run beyond the year 1936, although in the field of international marketing the period between 1936 and 1939 is of great importance. The study of markets of processed commodities is more complicated than that of raw materials. However, trade journals, personal interviews, government documents, and other sources may supply adequate material for the analysis of the international markets of almost all commodities and services which play a significant role in international trade. Such analytical studies must include investigation of economic and extra-economic determinants of the location of production facilities. They may throw light on the technological and marketing problems which influence the forms and degrees of competition practicable in various fields. Propositions founded on current theories of international trade are useful but could be even more useful in cartel discussions. Inasmuch as these propositions assume that free competition is generally prevalent on international markets, they cannot be applied to most actual situations.²⁸

²⁸ Professor Jacob Viner described this situation as follows: "Like the remainder of the classical theory, the theory of international trade was cultivated by its first exponents primarily as an aid to the solution of practical problems of national policy of current interest. It thrived on public controversy, and developed and improved markedly only while such controversy persisted. . . . It was only late in the nineteenth century . . . that any serious attempt—and that largely unsuccessful—was made to convert it from a field of public discussion to an intellectual discipline with an independent existence of its own, wherein wits could be tested and exercised on problems specially manufactured for the purpose and where relevance to practical issues was a secondary and sometimes if truth be told, a scarcely debatable, consideration."—"Professor Taussig's Contribution to the Theory of International Trade," *Explorations in Economics* (New York, 1936), p. 3. *The Economist* says: "The greatest need of all . . . is to rescue international trade from the atmosphere of theology. . . . If international trade can be rescued from the doctrinaires and submitted to a technical assessment of the contribution it can make, the largest step will have been taken towards recasting the principles of trade."—"The Principles of Trade," *The New Liberalism*, VIII (February 19, 1944), 233. The International Rubber Regulation Committee, in its final report, remarks that

Selected examples of market situations cannot be used as conclusive evidence for generalizations in international trade. In other words, the fact that theories and policies of international trade have been developed without reference to carefully assembled comprehensive studies of international markets has deprived the student of international cartels of a most valuable tool for speculation and policy-forming. Many will agree that one of the important tasks of theoretical reasoning would be to overhaul the concepts of competition, imperfect competition, monopoly, and to establish new concepts better suited to the classification of empirical facts.

3

The Second World War and the preceding period of political tension have not helped make cartel discussions more dispassionate or less involved. Economic warfare exercised great influence upon this problem. For instance, the German Government looked upon all international economic mechanisms as instruments with which to increase its war potential and to weaken its future adversaries. The particular problem of preventing German political penetration under the guise of economic intercourse is frequently connected with discussion of the much broader problem related to the *general* desirability of international cartels.²⁴ Many regard the "cartel spirit" of entrepreneurs as an anti-democratic feature of German origin without distinguishing between German combinations based on government compulsion and those established by the free volition of entrepreneurs. Those who urge the eradication of fascism as a prerequisite for peace-

it worked "in spite of serious theoretical difficulties." Discussing supply and price policies, the Committee reports with a feeling of relief: "These difficulties are formidable in theory, but within limits they are soluble in practice."—Sir Andrew McFadyean (ed.), *The History of Rubber Regulation, 1933-1943* (London, 1944), pp. 145, 147. (Hereafter cited *History of Rubber Regulation*.) Naturally Professor Viner, *The Economist*, and the Rubber Committee meant different things by "theory." J. R. Hicks characterizes this situation as follows: "It is, I believe, only possible to save anything from this wreck—and it must be remembered that the threatened wreckage is that of the greater part of economic theory—if we can assume that the markets confronting most of the firms with which we shall be dealing do not differ very greatly from perfectly competitive markets."—*Value and Capital* (Oxford, 1939), p. 84, quoted in *Cost Behavior and Price Policy* (published by the National Bureau of Economic Research, New York, 1943), p. 3.

²⁴ Official circles recognize the distinction between the postwar policy on international cartels in general and the specific problem of destruction of the possibility of German economic penetration. This is apparent in the press release of Sept. 17, 1944, issued at the Quebec Conference, in which the following agreement on this subject was reached by President Roosevelt and Prime Minister Churchill: "Destruction of German cartels and a core of understanding on dealing with the cartel problem internationally."

ful co-operation among nations will agree that the abuses perpetrated by the German Government or its private entrepreneurs, through cartels and otherwise, must be eradicated. The reasons why complaints about German economic penetration were as cries in the wilderness before the war were almost identical with the reasons for the indifference in the democracies of the West to political warnings on German policies generally. The primary objective of this volume, however, is focused upon the *general* problem of international cartels, although the facts assembled here may contribute to an understanding of German economic strategy.²⁵

4

Public opinion often attributes to the cartel mechanism as such political power to enhance national and international political friction. Statements to the effect that cartels have the power and will to make war or to promote fascism are not uncommon. Two such statements out of many thousands may serve to illustrate this point. One attributes the destruction of the Weimar Republic to cartels. "The cartels became the real government anonymously ruling the life of the nation down to the last details of burial, and the Weimar Republic withered in powerlessness."²⁶ The second example states: "The rooting out of the cartel must not stop short of its power to make wars."²⁷ These propositions confer upon a marketing system (cartels) a corporate personality with volition, power, and responsibility. Such statements suggest three things, first, that entrepreneurs were abusing their marketing coalitions to influence politics; second, that cartel mechanisms (e.g., common selling agencies, patent unions) were anonymous instruments of warfare in domestic and international politics; and third, that an entrepreneur who is in a cartel relationship with reference to a commodity is more inclined to engage in detrimental political activities than an entrepreneur who administers his business independently. Attributing to cartels by figurative speech a separate and distinct personality status diverts social responsibility from entrepreneurs to an economic mechanism which as such is not able to will, act, or assume responsibilities. As far as fascist countries are concerned the situation is fairly clear. As far as democratic countries are concerned it needs more serious factual investigation. However,

²⁵ Cf. Sumner Welles, *The Time for Decision* (New York, 1944), pp. 321-50.

²⁶ *Fortune*, September, 1942, p. 102.

²⁷ *The Daily Express* (London), September 24, 1944, quoted from *The New York Times*, September 25, 1944, p. 20.

with or without investigation, it would be wiser to point directly at the entrepreneurs who are responsible.²⁸

One delicate question arises in this connection in all cartel discussions. Provided that no express legal regulation exists to that effect, do we expect private entrepreneurs to accept policies and to put them into practice if they conflict with their private interest, merely because they are thought to be in the public interest? Is it not generally considered in the nature of free enterprise for the entrepreneur to act freely when he is not expressly limited by law? Those who expect businessmen to modify their profit interest by subordinating it to primary national interest will probably concede that the public interest must not be ambiguous. Experience shows that with reference to economic policies the ego of the government is frequently split over the requirements of the public interest.

The doctrine that private entrepreneurs may pursue their private profit interests within the framework of explicit legal regulations is still formally valid in democratic countries.²⁹ This rather formalistic proposition is frequently supported by the eighteenth-century teaching that the pursuance of private interests results automatically in public good. There are people who still accept Adam Smith's famous statement about the entrepreneur who "neither intends to promote the public interest, nor knows how much he is promoting it . . . he in-

²⁸ Walton Hamilton characterizes the entrepreneurs involved in these issues and the reluctance of public opinion to regard them as "ordinary" law breakers as follows: "The men in the dock are not denizens of the underworld, but gentlemen of substance and standing. In financial circles the word of the accused is as good as his bond; in the ordinary affairs of life his integrity is beyond question. The defendants are members of the best clubs, pillars of the Christian churches, leaders in civic enterprises. They are represented not by shysters, but by leaders of the American bar."—TNEC, *Monograph No. 16*, p. 78.

²⁹ Professor J. Anton de Haas answers accusations against the quinine cartel as follows: "Assuming that the author of the article referred to is correct in claiming that the prices of quinine set by the Dutch producers have been exorbitant, by what process of reasoning does he arrive at the conclusion that the producers were 'vicious' in combining their interests? They have no monopoly, except the monopoly temporarily created by their superior knowledge and enterprise. By no process known to me can they prevent others from increasing the output of cinchona bark, in South America, for example, and shipping in larger quantities to American pharmaceutical plants. If the virtues of the free economic system are found in the rewards received by entrepreneurs for vision, knowledge, and skill in management, what basis can there exist for expecting the Dutch quinine producers to become public benefactors? If the prices they charge are exorbitant, the blame should rest not upon the producers who through their vision enjoy temporarily a favored position, but upon those administrators who have wholly neglected the agricultural potentialities of the Philippines, Cuba, and other sections of the globe. . . ."—"Economic Peace through Private Agreements," *Harvard Business Review*, Winter Number, 1944, pp. 143-44.

tends only his own gain; and he is in this, as in many other cases, led by an invisible hand to promote an end which was not part of his intention. . . . By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it."³⁰ Democracies today expect businessmen, especially executives of large corporations, to reconcile their business conduct with the public interest, even if that interest is not clear and has not been given public sanction in formal, legal rules. Modern business leaders, while continuing their effort to maintain "free enterprise," at the same time try to reconcile private and public interests.³¹

³⁰ *The Wealth of Nations*, Book IV, chapter ii. The proposition that general selfishness (even dishonesty) may result in public benefit was exposed by a brilliant and devastating paradox in the sensational little volume of Bernard de Mandeville, *The Fable of the Bees: or, Private Vices, Public Benefits* (London, 1714, first published in 1705 under the title *The Grumbling Hive: or, Knaves Turn'd Honest*). Mandeville's proposition that "Thus every Part was full of Vice, Yet the whole Mass a Paradise," was sharply repudiated by Adam Smith. The fallacy of Mandeville, representing every private passion as vicious, led him, according to Adam Smith, to assume that private vice is the foundation of national prosperity. Cf. *The Theory of Moral Sentiments* (Boston, 1817), p. 171.

³¹ A somewhat pathetic statement to that effect reads as follows: ". . . the executives of our company—representing a typical cross section of America, . . . have not for a single minute forgotten that the lifelong policy of every American is first, last, and always to put almighty America above any consideration of the almighty dollar." Cf. Bone Committee, *Patent Hearings*, Part 9, p. 5084. Samuel Courtauld put it thus: ". . . there is a truer patriotic feeling, arising from a conscious respect for British ideals and the progressive gains of the past in which all classes have had a hand."—"An Industrialists' Reflections on the Future Relations of Government and Industry," *Economic Journal*, April, 1942, p. 1. According to a study of The National Bureau of Economic Research, ". . . human conduct, even as exemplified in business decisions, certainly has many aspects other than profit motivation which deserve serious study."—*Cost Behavior and Price Policy*, p. 18. A practical example may throw some light on the difficulties involved in reconciling private and public interest from the point of view discussed here. One of the items most objected to in the operation of the International Rubber Regulation Committee is that this agency resisted the increase of production quotas at a time when the necessity of accumulating strategic reserves was already obvious. As a matter of fact, an official report of the Committee frankly admits that "probably it would have been wise to have accepted the advice of the American Government and the Advisory Panel and raised the quota for the last quarter of 1939 to 80 per cent." The Committee raised the quota to 80 per cent for only the first quarter of 1940. However, according to the Committee, in the spring of 1940 the American member on the Advisory Panel suggested a reduction of the quota for the third quarter of 1940 to 70 or 75 per cent, and a special 15 per cent release for building up reserve government stocks in America. The Report of the Committee comments upon this suggestion as follows: "This tentative proposal first made in March by the American manufacturers to lower the quota for the third quarter to 70 per cent, deserves something more than a passing notice. It is a clear indication that American manufacturers were not, even at this time, intending to build up their stocks in America, and that they were still maintaining their policy of holding relatively small stocks in hand and covering their requirements by forward purchases. It is, in fact, a complete justification of the Committee's refusal to raise the rate of release to 85 per cent for

In discussions of international combination problems, an already difficult task is made far more difficult by extreme vacillations of public opinion and the lack of any agreement on what the primary public interest is. Professor J. M. Clark rightly asks: "How do self-interest and loyalty combine in a workable system? What kind and degree of loyalty does a system need to command in order to be sound, and does our system meet that test?"⁸² These questions were asked before the Second World War, especially in connection with the policies of large corporations, but they were never meant so seriously as now.

Whether active competition on international markets can be attained by merely insisting on it as a prerequisite of public interest is open to doubt. Those who still adhere to Adam Smith's proposition concerning the relation of private and public interest would probably not oppose government regulations which prevent all kinds of private marketing controls. They also believe that the abolition of government trade restrictions will "restore" competition in modern international business.⁸³ Those who maintain their faith in the invisible hand have made it clear that they condemn government intervention in business. Somewhat inconsistently they admit that many private entrepreneurs would not refrain from combination without public prohibition. Experience shows that effective enforcement of prevention of combinations requires considerable government interference. As discussed elsewhere in this study, the enforcement of active competition would require a tremendous amount of governmental intervention. If any substantial measure of private enterprise is to be maintained, the question that should be answered is not whether to regulate at all but what kind of environment, what kind of regulation, will promote the existence of private enterprise with free choice.

the first quarter of 1940 in the absence of any stock-building policy by the American and British Governments other than the half completed and relatively insignificant 'barter' stock."—*History of Rubber Regulation*, p. 125. Neither the average reader nor this author is in a position to ascertain actual responsibilities in this matter. However, it is obvious that the clarification of responsibilities in advance is the only way to avoid similar disappointments in the future. See also Truman Committee, *National Defense Hearings*, Part 2, p. 4530.

⁸² "Educational Functions of Economics after the War," *Amer. Econ. Review*, March, 1944, Supplement p. 62.

⁸³ One of our foremost modern economists, who believes that genuinely free market economy would result in a good and harmonious society, has a simple recipe for the radical solution of the international cartel problem. "The repeal of the import duty would brush away at one stroke the danger of monopoly. But governments and their friends are eager to raise domestic prices. Their struggle against monopoly is only a sham."—Ludwig von Mises, *Omnipotent Government* (New Haven, 1944), p. 71.

Technological experience and knowledge often are the bases on which monopolistic situations of entrepreneurs are developed. Complaints against the artificial blocking of technological progress by monopolies have been voiced for centuries.⁸⁴ The concerted outburst of competitors on the invention of a new method of steel production,⁸⁵ or the devices used to suppress the production of beet sugar,⁸⁶ are vivid examples of friction caused by such changes. Recent investigations made by the American Congress have supplied sufficient material to show the connections between international cartellization on the one hand, and legally-vested patent and trade mark rights and secret technological experience on the other. This section of the cartel problem, however difficult, will probably be easier to solve than others which at first seem less difficult.

5

Those who assume that the pursuit of self-interest by the free entrepreneur results necessarily in competition will find after reconsideration based on economic facts that self-interest, more often than not, may lead to non-competition and even to combination. This was known to Adam Smith, and is known also to modern economists.⁸⁷ Self-interest, especially if conceived from the long-run point of view, may prompt the entrepreneur to compete, to abstain from competition,

⁸⁴ Sir John Colepeper, one of the Knights of the Shire for Kent, presented November 9, 1640, the following grievance of his county to the House of Commons: "I have but one grievance more to offer unto you; but this one compriseth many: it is a nest of wasps, or a swarm of vermin, which have over-crept the land, I mean the monopolers and polers of the people: These like the frogs of Egypt, have got possession of our dwellings, and we have scarce a room free from them; they sip in our cup, they dip in our dish, they sit by our fire; we find them in the dye-vat, wash-bowl and powdering-tub; they share with the butler in his box, they have marked and sealed us from head to foot. Mr. Speaker, they will not bate us a pin: we may not buy our own cloths without their brokage. These are the leeches that have sucked the commonwealth so hard, that it is almost become hectical." Cf. *Cobbett's Parliamentary History of England*, II, 656. A more recent objection raised by a foremost English industrialist reads: "There is a practice much in vogue which is liable to great abuse,—i.e. the taking out of blocking patents. Industrialists sometimes take out patents not in order to exploit them seriously but with the deliberate intention of preventing others from using them." This practice, according to the same source, extends to the buying up of existing patents in order to suppress their exploitation. Cf. Samuel Courtauld, "An Industrialist's Reflections on the Future Relations of Government and Industry," *Economic Journal*, April, 1942, p. 15.

⁸⁵ See Ervin Hexner, *The International Steel Cartel* (Chapel Hill, 1943), p. 7. (Hereafter cited *Steel Cartel*.)

⁸⁶ Cf. p. 189 of this volume.

⁸⁷ M. M. Bober attempted to show that "the implications of self-interest suggest, not competition, but monopoly as the norm of human conduct and as the method of analysis."—"Economic Assumptions and Monopoly," *Exploration in Economics* (New York, 1936), p. 336.

or to combine. He may see his interest in following a price leader or in tacitly accepting a freight equalization system; he may restrict his supplies in order to create scarcity; he may expand his supply and find it profitable to sell large amounts at low prices; he may in pursuit of his private interests develop and use technology; or he may suppress technological progress.

The realistic appraisal of the chances of competition is a prerequisite to serious economic reasoning on international marketing schemes. Public power may counteract the fancied or real self-interest of the entrepreneur to restrict competition by establishing favorable conditions for workable competition, by express legal regulations, by unambiguous economic policies, and by propaganda. However, those who want to influence competition by public policies and regulations would do well to pay attention to the possibilities and limitations of these measures in democracies. Legal sanctions cannot be as severe as those in authoritarian regimes and must make allowances for freedom of person and property. In any case it must be remembered that to charge national and international public agencies engaged in the regulation of economic intercourse with tasks which they are unable to accomplish will result in weakening faith in democratic procedure. Even without measures so ruthless as to resemble authoritarian limitations of civil liberties democracies may do very much toward promoting workable competition.

The economic and political disintegration of large areas of the world, especially of Europe, and the upsurge of new ideologies will influence profoundly any future international co-operation among national entrepreneur groups. Changes in the structure of European industries and the probable relegation of Germany to an inferior position in international trade will automatically eliminate many cartel problems and will bring in their wake a host of new problems.

CHAPTER II

The Cartel Concept

I

IN THE PRECEDING CHAPTER we have used the language "co-operation of private entrepreneurs in marketing" as a rough definition of the word cartel. It is now necessary to achieve a more precise definition. As everyone who is toiling over the cartel definition knows, there is much confusion about its essential elements. This confusion is caused partly by linguistic inadequacies, partly by an underlying confusion of thought. In different parts of the world the word cartel does not apply to exactly the same relationships. In the course of economic development, especially during the last four decades, varying economic patterns in the same place have been called cartels. In addition, passionate controversies have raged over the desirability of cartels. The very word itself has taken on emotional overtones which have been used as means of persuasion and argument and have increased the difficulties of common understanding.

The term cartel signifies a relationship between private entrepreneurs. This relationship involves the behavior of entrepreneurs in the marketing of certain commodities, processes, and services.¹ Thus, the subject of the cartel relationship is private entrepreneurs, the object is a commodity, process, or service. Entrepreneurs cannot

¹ How extensive and popular the expression cartel has become (especially in its derogatory implications) is shown by its use to refer to deals of the representatives of the Catholic, Protestant, and Jewish faiths with the major radio networks "to prevent 'quackery'" in religious radio programs. Cf. "The Holy Cartel's 'Peace Pattern,'"—*The Protestant*, September, 1944, p. 6. Roy Glenday calls the "collective security" system "a kind of international political cartel with monopoly powers. Its underlying purpose," according to Mr. Glenday, "though this is not commonly realized—is to protect the 'haves' against the 'have-nots,' the stagnant populations and economic systems which have come nearest to achieving plenty against those which are still growing and are still living in poverty."—*The Future of Economic Society* (London, 1944), pp. 248-49.

have a cartel relationship in the abstract, *i.e.*, without express reference to a certain commodity or market. That is why we designate cartels as "international nitrogen cartel," "Belgian merchant bar cartel," "international shipping conference," and so forth.

The institutional framework of a cartel relationship may be in an agreement written or unwritten, or it may consist of actual co-operation never agreed upon formally. Special marketing mechanisms such as independent commercial corporations or trade associations may serve as implements of the cartel organization; but these are not the cartel and must not be confused with it.

Even more confusion may be introduced into cartel terminology by the linguistic habit of detaching the cartel from its participants and conferring upon it an independent corporate personality, thus reducing the role of the cartel members to that of the shareholders in a corporation. A market mechanism ceases to be a cartel when it operates in its own right or upon instructions of its government, independent of the volition of its members. The cartel relationship does not involve a general partnership in which members carry on all their business transactions for joint benefit and profit. Cartels often resemble a "special partnership" with reference to a special branch of business (*e.g.*, marketing of plate glass on Far Eastern markets), with the qualification that the partnership may continue its existence regardless of minor changes in its membership.

In a great many cases cartel relationships are established by written documents or oral agreements.² However, cartel-like market situations may occur without any formulated action or forbearance of entrepreneurs. A very strong monopolistic situation, not the result of *conscious* action, effected by mere chance or by unintended co-operation, does not constitute a cartel.³ Between accidental monopolistic market situations and market controls based on express agreements there exists a multitude of intermediate forms. One of these arises from the unwillingness of entrepreneurs to compete, without having made any agreement to this effect. "Silent agreements as to prices,"

² The term agreement as used here does not cover only legal contracts. It includes all sorts of common understandings, whether enforceable, expressed, or tacit, about future facts and performances or forbearances. Even a so-called tacit understanding implies that one knows whose tacitness, when, where, and by whom observed, has given to it a significant meaning. A close scrutiny of the political reasons for the deliberate use of inadequate sign vehicles in formulating economic agreements would throw light on important differences in methods of government control of business.

³ Dr. Rudolf Callman, a cartel expert of the TNEC, has proposed to replace "monopolily" with "anti-competitive conduct" in legal language. It is presumed that he did not mean *unconscious* anti-competitive conduct.—TNEC, *Hearings*, Part 25, p. 13351.

wrote E. Benjamin Andrews in 1889, "have always prevailed among contiguous dealers in a given sort of goods."⁴ Many doubt whether an articulate agreement is required to constitute a cartel, or whether the conscious, harmonious behavior of entrepreneurs without previous agreement is sufficient.⁵ If business relationships, arrived at without agreements, and/or lacking any external organization, are excluded from the cartel concept, a significant boundary line would be fixed. This is a sensitive point to entrepreneurs in the United States, where legal regulations condemn restraints of trade if they are the result of agreement. As a matter of fact, the TNEC specifically questioned American entrepreneurs on several occasions on whether their market collaboration was based on mutual understandings or whether it was founded solely on mutual action or forbearance without any "agreed upon" behavior. The answers of the entrepreneurs were obviously influenced by the text of the Sherman Act. Experts of the TNEC designated marketing quota systems, freight equalization arrangements,⁶ price leadership⁷ based on mere "customary behavior"⁸ and

⁴ "Trust according to Official Investigations," *Quarterly Journal of Economics*, III (1888-89), p. 120.

⁵ A. F. Lucas, in discussing the almost imperceptible gradation from informal understandings to highly complex organizations, dismisses informal understandings "with no more than a mention. . . . No doubt," writes Professor Lucas, "many of them exist in England, as in every country, although confirmation of their existence is in most cases, quite impossible." The author does not share Lucas' opinion that ". . . the very informality of such arrangements makes them essentially temporary and ephemeral." Neither does he subscribe to the statement that "While in specific cases they have substantially modified the competitive struggles, they can hardly be characterized as effective agencies of control."—*Industrial Reconstruction and the Control of Competition* (London, 1937), p. 201. *The Report of the Committee on Trusts* (London H.M.S.O., 1919, Cmd. 9236), p. 17, contains the following significant remark: "What is notable among British consolidations and associations is not their rarity or weakness so much as their unobtrusiveness. There is not much display in the window, but there is a good selection inside." See concerning "Gary dinners" of the American steel industry, Lewis H. Haney, *Business Organization and Combination* (New York, 1934), pp. 183-84. These dinners resulted in what Judge E. H. Gary called "friendly competition." See Edwin G. Nourse, *Price Making in a Democracy* (Washington, 1944), p. 75.

⁶ Professor Frank Albert Fetter assumes that the basing point system of the American steel industry was extended "for three decades or more . . . by successive agreements to all steel products and to all primary producing mills in the U. S." See "The Pricing of Steel in South Africa," *The South African Journal of Economics*, September, 1941, p. 238.

⁷ Price leadership is discussed in *U. S. v. International Harvester Co.*, 274 U. S. 693, 47 Sup. Ct. 748 (1927). ". . . the fact that competitors may see proper, in the exercise of their own judgment, to follow the prices of another manufacturer, does not establish any suppression of competition or show any sinister domination." The mere possession of potential—unexerted—economic power, unaccompanied by unlawful conduct, was not regarded as an offense in *U. S. v. United States Steel Corporation*, 251, U. S. 417, 40 Sup. Ct. 293 (1920), and *U. S. v. International Harvester Co.*, 274 U. S.

not upon agreements, as cartels. One would be inclined to add to this category so-called "honorable understandings" or "gentlemen's agreements" in which, although the parties agree on a certain conduct, there is an expressed or tacit reservation that the obligation rests exclusively in the "moral sphere."⁹

An enlightening example of this perplexing point was given in an interchange of remarks before the TNEC on January 17, 1940. The discussion took place between the Chairman of the Committee, Senator O'Mahoney; the Counsel to the Committee, David E. Scoll; and the President of Anaconda Copper Mining Company, Cornelius F. Kelley.

Counsel: As a result of that meeting and the arrangement that was undertaken, each producer was allotted a share of the general curtailment, is that correct? . . .

Mr. Kelley: That is not quite in accord with my recollection. My recollection is that each producer, knowing his current production, knowing the amount of the "kitty" that was required, knowing what he ought

at 708-9, 47 Sup. Ct. at 753-4 (1912). See, however, *Ethyl Gasoline Corporation vs. U. S.*, 309 U. S. 436, 60 Sup. Ct. 618 (1941), and *U. S. vs. Socony Vacuum*, 310 U. S. 150, 60 Sup. Ct. 811 (1941). A recent example of a "price-leadership" system is mentioned in the indictment and civil law-suit against several American stainless-steel-producing companies. According to a Press Release of the Department of Justice, January 19, 1945, the defendants met from time to time in "stainless steel industry meetings" which were usually held at the Duquesne Club, in Pittsburgh, and elsewhere. The computing of base prices of stainless steel was made according to prices published by the Sharon Steel Corporation.

⁸ Dr. Wilcox cited cases in which a quota system had been attributed to "customary behavior."—TNEC, *Hearings*, Part 25 pp. 13340-41. The investigation of the price-leadership system in the beryllium-copper industry questions the existence of a mutual understanding minutely. See *ibid.*, Part 5, pp. 2085 ff., 2115 ff., 2284 ff. Concerning published prices of the steel industry, cf. *ibid.*, Part 19, pp. 10486 ff., and 10602 ff. Concerning extras in the steel industry, see *ibid.*, Part 19, pp. 10560 ff. Wilcox discussed price-leadership in *Monograph No. 21*, pp. 121 ff. E. Benjamin Andrews ("Trusts According to Official Investigations," *Quarterly Journal of Economics* III [1888-89], 121), regarded price leadership as a particular category of "trusts": "Cases where one corporation or firm, in virtue of its peculiar power or success, is tacitly accepted by others as the standard for price-lists and methods" (p. 119). An example of a "statistical committee" which assigned production quotas (without formal agreement) is discussed in the decision of the U. S. Supreme Court of January 8, 1945, *Hartford-Empire Co. et al. vs. U. S.*

⁹ *The Report of the Committee on Trusts* (London, 1919), (Cmd. 9236), p. 17, regards an "honorable understanding" as a kind of combination without any formal association. "The simplest (though not necessarily the most primitive) type of combination is that which occurs where a number of manufacturers or traders, who would otherwise be competitors, meet from time to time and arrive at an 'honorable understanding' or 'gentlemen's agreement' in regard to prices, output, division of business, etc. Such arrangements are essentially informal and temporary. There are no documents; there is no association; there is no bond except that of good faith."

to do and probably what he did do, would put down on a piece of paper the tonnage he would reduce and Mr. Eckert passed the hat and collected it and told us that aggregate. . . .

Chairman: In other words, there wasn't an agreement but you came to a common understanding?

Mr. Kelley: It was an informal understanding.

Chairman: As a practical situation, you wanted to curtail production and at the same time you didn't want to be put in the position of violating the law, so that there was not written agreement and there was no actual oral agreement, as we put it, but you reached the objective just the same?

Mr. Kelley: That is correct.

Chairman: Because you felt it was necessary to do that in order to preserve the industry?

Mr. Kelley: Absolutely.¹⁰

The reader will soon discover that the problem of whether a cartel relationship was or was not based on an agreement is significant solely from a juristic point of view.¹¹

¹⁰ See TNEC, *Hearings*, Part 25, p. 13210. It may be added that the representative of the Treasury Department, Joseph J. O'Connell, after reading the legal opinion on the curtailment program, made the following comment: "This legal opinion . . . would indicate that the writer of the opinion assumed a legal agreement existed, but came to the conclusion that under all the circumstances it did not constitute a combination in restraint of trade." To which Mr. Kelley replied: "A question of whether or not there was an agreement the Senator has really stated. Yes and no—there was an understanding, and as far as I am concerned, I felt bound."

¹¹ E. Ronald Walker, *From Economic Theory to Policy* (Chicago, 1943), p. 44, writes ". . . the lawyer discovers monopoly only when there is proof of overt acts calculated to operate 'in restraint of trade'; . . . the fact that small firms accept the price leadership of a large firm does not constitute legal proof that the latter is exercising monopoly power. Consequently, the lawyer looks primarily for overt acts of the type indicated." It is noteworthy that according to Walker "the latter," i.e., the price leader, alone exercises monopoly power.—E. A. G. Robinson, *Monopoly* (London, 1941), p. 29, says, "It all depends upon what one manufacturer thinks another manufacturer is going to do. It follows, therefore, that what we may call the detective story approach to the study of monopoly, the search for mysterious hidden agreements. . . ." Clarence J. Foreman, *Efficiency and Scarcity Profits* (Chicago, 1930), p. 315, discussing what he calls "efficiency monopolies," writes: "Though driven to fragments by court decree, it often gathers new life under favorable conditions and by tacit agreements it persists in spite of law. This is equivalent to saying that efficiency monopolies based upon tacit agreements are hard to eradicate. In some states a monopoly founded upon a mere informal understanding is illegal. We have legislated against the efficiency monopoly; but deny the co-operative combination a place in our economic system, we dare not. The whole economic world would rise in revolt. . . . We may modify and ameliorate the distinctive power of capital, already so thoroughly entrenched, but break the invisible chains of combination we cannot. . . . As it rests primarily on tacit consent which is safely locked in the entrepreneur's breast, we may be unable to unseat capital from its final throne."

In order to break up the cartel concept into its broad constituent elements and clarify it, a tentative definition is submitted to the reader. A cartel is a *voluntary, potentially impermanent, business relationship among a number of independent, private entrepreneurs, which through co-ordinated marketing significantly affects the market of a commodity or service.*

The following elements are essential to the cartel concept:

- (a) Plurality of independent private enterprises.
- (b) Voluntary, purposive, co-ordinated marketing behavior significantly affecting the marketing of a determined commodity or service.
- (c) At least potential impermanence.
- (d) Anticipated, purposive direct or indirect advantage for the participants.

These elements are in themselves complex and should be divided into their constituent parts and analyzed somewhat in detail.

(a) A plurality of entrepreneurs makes the cartel a *collective* marketing mechanism. Influence upon the market, therefore, is the result of several independent wills. The amount of power exercised by individual participants may vary. If one of the participants exercises almost dictatorial power, he does it with the volition of the other participants. A cartel is thus a *collective* marketing control in contrast on the one hand to marketing controls exercised by individual entrepreneurs (*e.g.*, the United Shoe Machinery Corporation); on the other hand to controls based on corporation hierarchies (*e.g.*, Lever Brothers & Unilever, Limited). In principle, and frequently in practice, a cartel represents a more or less democratic relationship, although one often finds large and small oligarchies.

The structure and policies of the cartel reflect the wills and interests of all its participants. A very strong cartel may so amalgamate these wills and interests that it operates as one marketing unit. A looser cartel may only modulate the wills and interests of its members so that it approaches rather a duopoly or an oligopoly.¹² Economic theory, and sometimes economic policy also, treat cartel relations as if there existed one uniform economic interest with reference to costs,

¹² Duopoly and oligopoly are not meant here in the strict sense as defined by Edward Chamberlin, *The Theory of Monopolistic Competition* (Cambridge, 1938), p. 312. According to Chamberlin, "There can be no actual, or tacit agreement." If there is one, he would call it monopoly. See also the testimony of Dr. Theodore J. Kreps, TNEC, *Hearings*, Part 25, p. 13038.

supplies, and prices. Bold conclusions are drawn sometimes upon that assumption. Disregarding the fact that the great majority of cartels have to face competition from outsiders and various elasticities of substitution (intercommodity competition), one has to realize that even in tight cartels marketing behavior is the result of a struggle among various, often strongly divergent, wills and interests of participants. Average and marginal costs, the extra receipts from selling additional units, relations between domestic and export interests, and other circumstances influencing the policies of cartel members will widely differ. No explanation is necessary to show that these differences are greater in international than in domestic cartels. This is not to say that a cartel relationship embracing entrepreneurs with differing wills and interests must necessarily be ineffective.

There is general agreement that to be a cartel member an entrepreneur must be legally independent. Thus plants or divisions of the same company cannot conclude a cartel agreement. Legal independence does not, however, necessarily mean actual independence. This latter, in the opinion of the writer, is a necessary characteristic of the member of a cartel. Legally independent companies may be organically so closely connected as to form one large profit-making interest so that they co-operate on the market anyway. A cartel agreement would not introduce anything basically new into their relationship. Again, there would be something artificial and contradictory if subsidiaries of the same holding company seriously competed with each other. Cartel members must be potential competitors with reference to the cartellized commodity or service. It is not necessary that in the absence of the cartel relationship the cartel members would actually compete; it is necessary that no corporate or financial ties prevent their competing if they wish to do so. Even when enterprises are connected by a cartel relationship, they must be able to act independently in matters not covered by the cartel. There are plenty of examples of entrepreneurs connected by a number of cartel agreements vigorously competing on non-cartellized markets or in commodities not subject to the cartel agreements. Such competition would be inconceivable among members of the same corporate organization or among legally independent corporations controlled by the same interests.

The separate profit-making units that participate in a cartel may pool returns or profits derived from the marketing of a determined commodity or service. In such cases, only the profits made in the cartellized market are pooled. Thus, for instance, if the Belgian and

French national steel cartels agree to pool profits from exports of drawn wire, their profits or losses on other than export markets in drawn wire and those deriving from other commodities are not involved.¹³

Intercompany connections which do not alter the independence of cartel participants (for instance, jointly-owned subsidiaries) do not change the cartel character of a marketing organization. For instance, the joint ownership of subsidiaries by corporations in the chemical business in Germany, the United States, and Great Britain did not change the cartel character of the relationship of the corporations concerned.

Businessmen do not pay much attention to the efforts of authors to distinguish cartels from combinations of the corporate type. They frequently create marketing organizations which are mixed patterns, or borderline cases between cartels and combinations of the corporate type. Sometimes the independence of entrepreneurs in marketing organizations becomes apparent only in times of crisis or conflict.

Since the cartel is a relationship of private entrepreneurs, it belongs among the patterns of private enterprise. Therefore, marketing agreements of public agencies in the sphere of domestic economy and marketing arrangements established by diplomatic agreements in the international sphere do not belong in the category of cartels.¹⁴ Publicly owned enterprises may, however, be members of cartels, and diplomatic agreements may be the skeleton on which private cartels are erected.¹⁵ Tin, rubber, and tea are good examples of the latter. Gov-

¹³ The international linoleum combine, which agreed on the equalization of profits and paying the same percentage of dividends, is an interesting border case between a cartel and a combination of the corporate type.

¹⁴ International marketing controls based on diplomatic agreements and associated with hemispheric defense have frequently been referred to as cartels. See, e.g., W. L. Culbertson, "Economic defense of the Americas," *Annals of the American Academy of Pol. and Soc. Science*, September, 1940, pp. 186 ff. The National Association of Importers of Hides and Skins writes in a memorandum that the American industry cannot "successfully function if shackled by cartels"—designating as a cartel the co-operation of the United States, British and Canadian Governments in the Combined Raw Materials Board. Cf. *The New York Times*, October 11, 1944, p. 28. These agencies have little in common with cartels in the traditional sense. However, there are many transitional patterns in which classification is based mainly on the particular view of the classifier.

¹⁵ Concerning government participation in international cartels, see W. Y. Elliott, *et. al.*, *International Control*, pp. 32 ff., and Dr. Fritz Werr, *Internationale Wirtschaftszusammenschlüsse (Kartelle und Konzerne)* (Berlin, 1936), *passim*. One of the earliest "modern" international cartels was set up on June 11, 1470, between the owners of alum mines in the Papal State and those of the Island of Ischia, near Naples. The signers of the cartel agreement, Pope Paul II and King Ferdinand of Naples, frankly included in the covenant the statement that the objective was to maintain prices for alum as high as possible. Common price policy was agreed upon, profit-sharing and sales

ernmental agreements of a diplomatic character co-ordinating the markets of certain commodities and services are usually referred to as commodity control schemes.

(b) The cartel relationship must be voluntary. Traditionally, the cartel concept is limited to marketing controls in which no compulsion to join is exercised by public authorities and in which policies are not decidedly influenced by general or particular regulations of the respective governments. It is submitted that legal and extra-legal pressure of governments on the organization and the determination of the policies of cartels has greatly differed from one country to another. One may object that the distinguishing mark between "free" and "compulsory" institutions is not a generic one, that the difference between them is not of kind but of degree. A marketing scheme to which the entrepreneur must adhere and the policies of which are subject to determination by public agencies approaches a public agency. It is not, therefore, an institution of private economy. Although there are many transitional forms between free and compulsory institutions, this distinction is of capital importance. This may be demonstrated by the fact that all kinds of fascist regimes advocated the abolition of (free) cartels and their transformation into compulsory marketing agencies.¹⁶ Article 13 of the platform of the German Nazi Party of 1920 (valid until 1945) proclaimed the principle of nationalization of all private industrial combinations.¹⁷ A statement of one of the recog-

quotas were established, exchange of statistical informations arranged, and a common policy was adopted to fight outsiders. There were to be agents acting as a "joint sales comptoir." Credit and other conditions of sales were regulated uniformly and heavy penalties were stipulated in case of violation of the agreement. The social position of the contracting parties did not prevent a certain cartel distrust, mitigated somewhat by the provision that each party was to possess keys to the storehouses of the other in order to supervise possible circumventions. The mines were to be exploited by private companies, but the sovereign owners were highly interested in the prosperity of those companies. Whereas the cartel agreement conspicuously resembled a "modern" international cartel agreement, there was one provision which belonged to the arsenal of ancient times. In order to fight Turkish "outsider" competition the Pope obligated himself to enjoin, at least once a year, all Christianity from buying and selling alum of Turkish origin. Turkish alum was outlawed and could be seized by anybody. The whole profit yielded to the Pope by the monopoly was to be used to finance wars against infidel Turks and Protestant Hussites. Cf. Jakob Strieder, *Studien zur Geschichte kapitalistischer Organisationsformen* (Munich, 1925), pp. 168 ff.

¹⁶ This is not to say that in such compulsory institutions entrepreneurs may not exercise policy-determining or advisory functions. However, the character of these functions and their responsibilities will be different from those of free institutions.

¹⁷ Gottfried Feder, the author of this platform, comments on the Article in the following way: "This demand is consistent with our general war upon the capitalist idea. The first aim of syndicates and trusts in any particular branch of production is to unite with other similar businesses for the purpose of dictating prices. They are

nized social philosophers of Nazism, Werner Sombart, may convey an idea of what the Nazis meant by the nationalization of industrial combinations. According to Sombart "... the cartel must cease to pursue a profit policy and place itself rather at the service of the community, that is, that it finally becomes the bearer of political and state functions (compulsory cartels) so that it will have a sort of capitalistic guild-constitution."¹⁸

The Attorney General of the United States, Mr. Francis Biddle, made this distinction between voluntary and compulsory cartels clear when he said: "At the present time it is probably inaccurate to speak

governed by no desire to distribute good wares at cheap prices. . . . Supply is regulated by pooling, by which means they are able to regulate prices in accordance with an apparently genuine 'supply and demand.' This is what interests the shareholders, who have no desire to see prices kept low by competition. New ideas and inventions are viewed with a hostile eye, and preferably suppressed if their adoption would endanger the paying capacity of older plants. Such businesses, run as huge trusts from a big central office, are clearly 'ripe for socialization,' i.e., they have ceased to fulfill any of the services to the community which individual competition performs."—*Hitler's Official Program and its Fundamental Ideas* (London, 1938), p. 91. A German economist, Max Drews, expressing contempt for those who do not show sufficient understanding of the German compulsory cartel structure, states that according to the Nazi doctrine "there should not be a basic difference between peace and war economy," in which case the compulsory cartel structure would remain a permanent economic pattern.—"Die Kriegswirtschaft als Übergang zu einer neuen Wirtschaftsordnung," *Wirtschafts-Dienst* (Hamburg, July 5, 1940), p. 515. According to W. H. Hutt, "The dictatorships are efficient, not owing to price and output controls engineered on behalf of the politically influential groups or by cartels and price-rings, but because such price and output controls have been effectively suppressed in the national interest."—*Plan for Reconstruction* (London, 1943), p. 75.

¹⁸ Cf. *A New Social Philosophy* (Princeton, 1937), p. 285. The Fascist and Nazi doctrines call collective marketing arrangements of free entrepreneurs "liberal" cartels. They are, naturally, condemned and regarded as belonging in an era definitely passed away. "The capitalistic cartel is dead," says one Nazi economist. Cf. Arno Sölter, *Das Grossraumkartell* (Dresden, 1941), pp. 73, ff., and p. 82. Even compulsory cartels contain too much pursuit of private interest for the Nazis. That is why they developed the concept of the "total cartel." A definition of the total cartel is given as follows: "It is the organization of producers of a commodity. By safeguarding the rules of rationalization and the interest of public welfare this organization is charged with regulation of the production and marketing of that commodity and with the organic co-ordination of these functions with the national economic structure as a whole" (Sölter, *op. cit.*, pp. 87-88). In these "total cartels" entrepreneurs are supposed to be a self-governing agency operating in pursuit of public interest under the control of the government. And because these "cartels" are themselves public bodies under the supervision of decentralized public administrative agencies it was feared that jealousy and "competition" might develop among these several authorities ("Konkurrenzkampf der Behörden"). The Nazi doctrine regards such rivalries and "tensions" as useful to a certain extent (Sölter, *op. cit.*, p. 84). That compulsory cartels are devices to expand and co-ordinate production is without doubt part of the Nazi doctrine. See also Louis Domeratsky, "The German Cartel, an Instrument of Economic Control of the European Continent," *Foreign Commerce Weekly*, June 7, 1941, pp. 409 ff.

of separate cartels and combines in the German economy. They are all linked together. . . . They exist as part of the Nazi government."¹⁹

After 1935, important cartel decisions were strongly influenced in Europe by national governments. This influence was, naturally, different in degree and form from one country to another. In international cartels national member groups more and more frequently referred to the wishes of their governments in respect to the acquisition of foreign exchange, domestic employment, official barter and clearing agreements, and so forth.

The TNEC hearings emphasized the intimate relationship between government and industrial combinations in Great Britain,²⁰ but the study did not mention the great influence exercised by British public agencies on prices and production of basic commodities administered by certain cartels. Although regulations were promulgated by the French Government in 1936 and 1937 concerning the illegal augmentation of prices in general, and although the silk, sugar, and shoe industries were concentrated in compulsory code-regimes,²¹ French cartels

¹⁹ Kilgore Committee, *Mobilization Hearings*, Part 16, p. 1975.

²⁰ TNEC, *Hearings*, Part 25, p. 13048. Dr. Kreps stated: ". . . there is an intimate relationship between members of government and ruling members of industry. That intimate relationship undoubtedly results in a give and take, in some modifications of industry policy at some times, but we have no formal evidence on that point." *The Report of the Import Duties Advisory Committee on the Present Position and Future Development of the Iron and Steel Industry*, presented by the President of the Board of Trade to Parliament by Command of His Majesty (London, 1937), Cmd. 5507 (May Report), sufficiently proves that production and price policies of the iron and steel industry were decidedly influenced by governmental agencies. The agreement of the British steel industry with the International Steel Cartel was submitted to Parliament. The statement of Dr. Kreps that "At present the iron and steel industry is completely controlled by a supercartel . . ." should be weighted in light of the control exercised by the government upon this supercartel. A censuring opinion of many adherents of the British Labor Party in respect to the relationship between the British Government and the steel industry is contained in Ingot (pseud.), *The Socialisation of Iron and Steel* (London, 1936), *passim*. "The heavy iron and steel products," writes Ingot, "with the aid and care of the government, have won the battle for the control of the industry." (p. 100.)

²¹ The provisions relating to labor policies made these codes somewhat similar to the N.R.A. codes. These obligatory "ententes" are extensively discussed by André Piettre, *L'Evolution des Ententes industrielles en France depuis la Crise* (Paris, 1936), pp. 85 ff. The "bill" contemplating the general introduction of compulsory cartels in France was discussed in the TNEC without an indication that it had never become a statutory provision because of the non-concurrence of the French upper chamber.—TNEC, *Hearings*, Part 25, pp. 13057-68. The French upper chamber resisted the Flandin-Marchandeau compulsory cartel bill because this proposal was intended to obstruct the establishment of new competitive industries. Influential economic circles induced the French cabinet to answer the opposition of the upper chamber by establishing a compulsory cartel in silk (and later in shoes and sugar) through executive decrees.

as a whole remained relatively free from governmental influence. In other European countries, save the Scandinavian countries, Holland and Belgium,²² after 1935 government influence on cartel policy was even stronger than that exercised by the British Government. The only difference was that whereas the British system of publicity made this influence easily recognizable, in other countries it was less discernible.

In cartel discussions the term "compulsory cartels" is often used to designate entrepreneurial relationships established and directed according to governmental regulations. Although it is obvious that compulsory cartels are essentially different from "free cartels," some authors have not made this distinction sufficiently explicit. They have divided cartels into "voluntary" and "compulsory" types, implying that the two "categories" may be included in a "more general" concept.²³ However, judging from research on economic behavior and political responsibility we have to do with two opposing economic and political patterns which have certain elements in common. The concept of an entrepreneur implies a business unit in which decisions as to establishing and abolishing his enterprise and as to setting up and changing marketing policies rests with the entrepreneur. He has to bear the risks of uncertainties resulting from his free (or voluntarily restricted) marketing policies. In a "compulsory cartel" the activities of the entrepreneur are determined by an external authority and it is questionable whether he may be still looked upon as an entrepreneur in the traditional sense. For any discussion of cartels to be fruitful it is necessary to inquire into the degree to which government compulsion is consistent with the traditional cartel concept.²⁴

²² See a discussion of the Belgian Royal Decree of January 13, 1935, concerning the government's powers to establish syndicates and to impose other restrictions, in *Bulletin d'Information et de Documentation* (Brussels, February 10, 1936), p. 133. The application of the producers of wire products to limit the establishment of new plants based on this decree was rejected.—*Ibid.*, p. 237.

²³ E.g., Dr. Heinrich Friedländer writes that cartels can be established through contracts, by-laws, or resolutions of a corporate nature ["free cartels"], and through public or private acts approved by a public authority.—*Die Rechtspraxis der Kartelle und Konzerne in Europa* (Zurich, 1938), p. 11. (Henceforth cited Friedländer, *Kartelle*.)

²⁴ Paul de Rousiers, in *Cartels and Trusts and their Development* (League of Nations, Geneva, 1927), pp. 21-22, writes: "It cannot be too often emphasized that any agreement which possesses the smallest fraction of public authority . . . constitutes a step towards monopoly, jeopardizes freedom of competition and thus threatens to bring about a rise in prices. Under a free regime, any agreement which abuses its power by raising sales prices arouses competition from outside and thus exposes itself to the most serious danger that it can have to fear." Though this juxtaposition of free and compulsory combinations is somewhat exaggerated by Rousier, it points to a serious practical distinction between the two contrasting structures. A. F. Lucas (*op. cit.*, viii,

In the international field, the distinction between compulsory and free cartels is less clear than in the domestic field. Sometimes the membership of international cartels has included more or less compulsory cartel groups as well as voluntary ones. After 1934 German, Japanese, and Italian adherence to international cartels must be regarded as fully, or at least partially, government directed.

Co-ordinated marketing behavior is naturally the opposite of strong rivalry. There is good reason for hesitating to state that as a general rule a cartel restricts competition, as is usually assumed. The phrase "restricts competition" suggests that in the absence of the cartel, active competition would exist. As indicated many times in this study, the question of what would happen in the absence of "cartel behavior" is not self-evident but must be subject to empirical investigation from market to market, from one time period to another time period. If this reservation is accepted, the phrase "restricting competition" may be included in the cartel concept without hesitation. The co-ordination of marketing behavior within a cartel relationship may affect all phases of the extraction, processing, transportation, and merchandising of commodities (services). The exchange of commercial and technological information may result in sufficient co-ordination to create a cartel. However, business information on production, prices, and other significant phases of the marketing process, if accessible at the same time to potential competitors, distributors, and consumers alike, does not constitute a cartel. Some co-ordination of market behavior results from common adherence to simple forms of business ethics (fair trade practices agreements). Some results from agreements on standardization. But none of these of themselves constitute a cartel. For a cartel to exist there must be sufficient voluntary co-ordination to have significant effect on market behavior.

(c) A cartel relationship may last by means of continuous renewals for many years, although agreements are rarely concluded for as long as five years. Because their existence, renewal, and policies are dependent upon the volition of independent participants, the cartel relationship is essentially temporary.²⁵ In this regard it differs sharply

and 45-46) regards the absence of close regulation by the state "an important distinguishing mark in classifying industrial combinations." According to W. Y. Elliott *et al.*, "The mixture of government control and private management suggests a new form of political organization for economic life."—*International Control*, p. 9.

²⁵ According to Professor Edward H. Levi, "They are never intended to be temporary." Cf. "What should be British and American Policy Toward International Monopolies?"—*The University of Chicago Round Table*, No. 319, April 30, 1944, p. 8. The late Sir Alfred Mond (Lord Melchett), one of the leaders of the chemical industry

from marketing controls of a more permanent nature such as those based on corporate relations. Experience shows that cartel relationships are very frail. Even where enforceable contracts, deposits, and other devices are used to cement cartel relations, a participant is usually permitted to quit without legal consequences. This fragility is reflected in the internal workings of the cartel and in its marketing behavior toward outsiders and buyers.²⁰ There is no conceptual obstacle to stating that a cartel relationship might exist with reference to only one business transaction (e.g., in public bidding), or for a very short time (e.g., a month).

(d) The cartel relationship serves the real or imagined interests of its adherents. The entrepreneur who joins decides that those interests that he would pursue alone are better served in co-operation with other entrepreneurs. The member entrepreneur joins because he is seeking profits; if he stays out, he does so for the same reason. Those who say that the interests of the entrepreneur in the long run are not limited to the profit motive must concede that the cartel member also may be pursuing interests that transcend this motive. Thus a corporation executive principally concerned with prestige or economic power may pursue these ends either in or out of a cartel. A publisher, more concerned with public enlightenment than with money profits, may enter into a cartel relationship because he thinks that he can in this way more easily attain his altruistic objectives.

of the world, discussed the advantages of industrial combinations of the corporate type as contrasted to cartels. To assure a free exchange of information of a technical character, according to Sir Alfred Mond, "There must be more than a temporary armistice; there must be permanent peace. The cartel or combination which exists only for a limited number of years is in reality nothing more than an armistice in industrial warfare; and people are not going to hand over arms and methods of warfare to those who in a few years may be fighting them again.—*Op. cit.*, p. 236. Apparently these views were not held by those organizing marketing controls in the steel industry. However, Dr. Hjalmar Schacht, many decades ago, admonished the German industry to drop the cartel pattern of organization in favor of the "American" pattern of combinations of the corporate type, to combat foreign competition more efficiently. See Piotrowski, *op. cit.*, pp. 55 ff.

²⁰On the European Continent where cartels were regulated by law, the right to leave a cartel was separately guaranteed. The difference between cartels and combinations of the corporate type resulting from the lack of cohesion of the former was clearly recognized by Francis A. Walker as early as 1887. In an article, "Socialism," published in *Scribner's Magazine*, he wrote: "... such combinations are always subject to dissolution, by reason of antagonisms developed, suspicions aroused, separate interests appearing; and the expectation of such dissolution attaches to them from their formation. The cohesion excited, as between the particles of the economic mass which the theory of competition assumes to be absolutely free from affiliations and attractions, is certain to be shifting and transitory." Cf. J. P. Munroe, *A Life of Francis Amasa Walker* (New York, 1923), p. 254.

Most entrepreneurs in justifying surrender of their freedom in cartels argue that in the long run it is more advantageous to the public as well as themselves to avoid risks by business co-operation than to endure the uncertainties of sharp competition. Those who attack this conduct from the point of view of public policy argue that the entrepreneur by avoiding individual marketing decisions and the bearing of risks abandons his function as an entrepreneur, and that the cartel relationship creates monopoly profits, in addition to the general profits of the entrepreneur.

These issues usually are not raised in connection with those "cartels" created by compulsion to serve the public interest, although such cartels may guarantee greater and safer monopolistic profits than voluntary ones. The important point here is that the entrepreneur who voluntarily joins a cartel is pursuing exactly the same real or imagined interests that he would pursue if he remained independent. The monopoly increment may or may not be present. Furthermore, if present, it is not necessarily derived from restriction. It may be derived from savings because of more efficient organization and genuine co-operation.

3

Now that we have a broad idea of cartels in general, we may briefly indicate the meaning of international cartels.²⁷ Common parlance designates as international cartels those private collective marketing controls in which the participants belong to two or more nations. Thus, if an English entrepreneur co-operates with a Dutch entrepreneur, with reference to the English market, by co-ordinating domestic and import prices, an international cartel exists.²⁸ Most international cartel relationships involve several national markets or world markets.

There is a certain inconsistency in terminology applied to export and import cartel agreements of entrepreneurs belonging to the same nation. Suppose that Belgian entrepreneurs establish among themselves a cartel relationship with reference to the export of certain products of Belgium or the Belgian Congo. These cartel relationships are not called *international*, although they directly influence international

²⁷ Nazi "political economy" regarded the concept of international cartels as belonging in the conceptual scheme of liberalism and internationalism. In "future" Europe no such institution and concept is to be permitted. "Grossraum-Kartell" was the new Nazi concept which was to introduce the new international economic order under government supervision. Cf. Solter, *op. cit.*, pp. 10 ff.

²⁸ These latter arrangements are sometimes referred to as "penetration agreements." Cf. Hexner, *Steel Cartel*, p. 15.

trade. Thus the cartels organized under the Webb-Pomerene Act of the United States are regarded as domestic cartels.

International cartels very often unite entrepreneur groups which are themselves national or international cartels.

It is necessary now to turn briefly to the methods by which international cartels co-ordinate the marketing behavior of their members. The list given below is not exhaustive and of course all of these methods are not used in all international cartels.²⁹

- (1) Restriction of imports and restriction by other devices to protect home markets.
- (2) Allocation of customers, distributors, and markets, including the establishment of common subsidiaries for certain regions.
- (3) Regulation of output as to quantities and qualities of products (services), including agreements not to produce certain commodities or not to take interest in certain economic fields.
- (4) Regulation of exports, imports, and purchases as to quantities and qualities.
- (5) Pooling of returns and profit, including the pooling of losses, especially those resulting from fighting outside competition.
- (6) Uniform or co-ordinated sales terms and price policies, including delivered price systems, price leadership systems, open price systems, agreed minimum prices, including distributor organizations.
- (8) Exchange of important technological information, trademarks, and patents influencing the competitive position of participants.
- (9) Compensation for producing less than determined quota and fines for exceeding quotas.
- (10) Co-ordinated policies in fighting outsiders.
- (11) Co-ordinated policies in public bidding.
- (12) Arbitration procedure, including systems of deposits guaranteeing the smooth enforcement of agreements.

Cartel relationships involve specific commodities (processes, services) and specific markets (or all markets in the world). Sometimes they involve a set of more or less organically connected commodities such as steel products. (Complex cartels may be conceived as one

²⁹ See Chapter IV for more detailed discussion.

entity or as an aggregate of cartel relations.) Sometimes the policies of cartels are co-ordinated by a more general cartel. International steel and chemical industries supply examples of this pattern.

4

The student of this subject who confuses international cartels with such organizations as the Joint Raw Materials Board of the United States, Canada, and the United Kingdom, is lost.^{29a} This Board is not a collective market-control scheme of private entrepreneurs. Neither can a student begin to find his way in this subject if he confuses the relationship between a holding company and its fully-owned subsidiaries with that of the members of a cartel. There are transitional and borderline cases between cartels and other forms of public and private business combinations. The acid test of competence in this field is ability to distinguish the wide variety of mixed patterns and identify the elements that determine the nature of each. The Associated Press in a heated discussion with *The Economist* about the freedom of international markets in news called the Reuter News Agency a cartel.³⁰ In economic discussion, there is no valid reason for compressing the cartel concept into a framework significant only from a juristic point of view. Neither is it useful to extend the concept to all kinds of private trade restraints. Mr. Justice Brandeis offered an opinion, which is as simple as it is pertinent, that "Every agreement concerning trade . . . restrains. To bind, to restrain, is of their [the agreements'] very essence."³¹

No attempt is made here to offer a complete collection of old and new cartel definitions. Only a few of them are listed here and the reader's attention is called to the fact that their significance is lessened considerably by their being detached from their context.

Chronologically, the first definition of cartels was given by Fritz Kleinwächter in 1883. "Cartels are agreements of producer-entrepreneurs of the same branch of business with the purpose of reducing to some extent their otherwise unrestricted mutual competition, with the additional purpose of regulating production more or less so that it be

^{29a} See fn. 14, p. 26.

³⁰ Cf. *The New York Times*, Dec. 2, 1944, p. 8. According to Alexander V. Dye, "Soviet Russia is perhaps 100 per cent cartel. . . ." *Post-War Planning Hearings*, Part 4, pp. 868-69.

³¹ *Board of Trade of Chicago vs. United States*, 246 U. S. 231, 238 (1918). An extreme case to which an American executive was afraid the cartel term might apply is the following: "if we elect to sell patent rights . . . an English company, you would construe that as a cartel, because . . . it is quite obvious that we cannot use those English patents ourselves."—Bone Committee, *Patent Hearings*, Part 9, p. 5184.

at least approximately adjusted to the demand."⁸² The adjustment of supply to demand as the purpose of cartels has been emphasized in a great many cartel definitions, yet almost always without reference to the elasticity of demand.

Beginning with 1897 up to the end of the First World War, Robert Liefmann's famous definition, "voluntary agreements (associations) between independent enterprises of similar type to secure a monopoly of the market," remained almost uncontested in Europe. According to Liefmann, "a monopoly obtains wherever a considerable portion of the demand may be satisfied only by one single supplier or (as in the case of the cartels) by one combined group of suppliers."⁸³

President Franklin D. Roosevelt in 1944, in a public letter directed to Secretary of State Hull, defined the term cartel with reference to the planning of post war trade as "commercial agreements between private producers or between governments, or a combination of governments and private interests, to carry on such activities as determination of productive rates, marketing areas, and prices."⁸⁴

Committees of the United States Congress several times have discussed cartel definitions. On December 5, 1927, in a discussion which related to international marketing controls, the Chairman of the Subcommittee of House Committee on Appropriations, Milton W. Shreve, inquired of the Director of the Bureau of Foreign and Domestic Commerce, Dr. Julius Klein, ". . . will you place in the record a definition of a cartel?" Dr. Klein, after stating that "The cartel [European cartel movement] is causing a great deal of concern throughout the country," submitted the following definition: "The cartel is a type of trade or industrial combination, roughly approximating our trust, but with restrictive features and governmental participation which would not be tolerated in this country. . . . They are groups of industries brought together in trade-restraining set-ups, closer than our trusts in many cases, for purposes of dividing markets, controlling prices, establishing production quotas, etc."⁸⁵

⁸² *Die Kartelle*, Innsbruck, 1883, p. 126.

⁸³ Liefmann, *op. cit.*, p. 7.

⁸⁴ Cf. *The New York Times*, September 9, 1944, p. 10. See also Appendix VI of this volume.

⁸⁵ *Appropriations, Department of Commerce*, 1929, Hearings before Subcommittee of House Committee on Appropriations (Washington, 1928), p. 370. In the *Post-War Planning Hearings* of 1944, the following definitions may be found. Dr. Alexander V. Dye defined a cartel as "a combination or an agreement between producers or buyers or sellers to substitute cooperation for competition, and that such cooperation usually takes the form of fixing prices or marketing areas . . ."—(Part 4, p. 867). Mr. Clark H. Minor, President of International General Electric Co., defined a cartel as "an

The TNEC devoted several hearings³⁶ and a monograph to the nature of cartels and to the application of the term cartel to certain economic organizations existing in the United States. Experts were consulted about the "definition" of cartels and cartel-like arrangements. The purpose of the investigation, or as the chairman of the committee called it, of the study,³⁷ was not only to inspect the overt features of American economic life, but also to try to determine whether severe antitrust regulations had induced entrepreneurs to adopt inconspicuous forms of co-operation³⁸ which would not provoke official prosecution or public condemnation. At one stage of the hearings the vice-chairman, Representative Hatton W. Sumners, posed the question, ". . . why are we so much interested in what you name a thing?"³⁹ The assumption of Mr. Sumners that the committee, in discussing what cartels are and whether they exist in the United States, was considering "the possible failure of a complete development of what ought to have been the governmental policy . . ." was challenged by the economic adviser of the committee, Professor Kreps. The latter considered the hearings limited "to factual exposition of what cartels are, what cartel-like arrangements are, what their economic consequences have been, and what their political consequences are abroad. These cartel-like arrangements that we have here," continued Dr. Kreps, "are similar to certain cartel developments that occurred abroad. We are interested here because they represent a type of activity quite universal throughout the modern world. . . ."⁴⁰

agreement between the competing elements of international industry in order to obtain orderly markets, promote research, bring about the adoption of international standards, development of the technique of the industry, and to provide a greater volume of goods for more people in the world for less money." According to Mr. Minor, "such agreements have been more effective than any other device that has yet been found to promote international business."—(*Ibid.*, p. 914.) Mr. George W. Wolf, President of the United States Steel Export Co., defined a cartel as "an international business agreement, which is without shadow of doubt restrictive."—(*Ibid.*, p. 929.)

³⁶ TNEC, *Hearings*, Part 25.

³⁷ "Let us call it study instead of an investigation. People use the word 'investigation' in a sense which this committee has never intended."—*Ibid.*, p. 13307.

³⁸ "Clearly illegal agreements have often been set up on a secret basis."—Merle Fainsod and Lincoln Gordon, *Government and the American Economy* (New York, 1941), p. 527. According to Robert Liefmann, ". . . cartels between the big American concerns are not uncommon either, but they are of a quite informal character and do not come into the open at all."—*Op. cit.*, p. 290. Kurt Wiedenfeld judges (*Encyclopaedia of the Social Sciences*, III, 668) that because of anti-monopoly legislation and the peculiarities of business psychology, cartels in the United States "are in the majority of cases very loose associations. . . . There are no syndicates in the domestic market, nor have syndicates taken root among exporters since the passage of permissive legislation."

³⁹ TNEC, *Hearings*, Part 25, p. 13324.

⁴⁰ *Ibid.*

The chairman of the TNEC, Senator Joseph C. O'Mahoney, trying to arrive at a definition, asked, "What is the common acceptance of the term? . . . when we talk of the European cartel system, what do we usually mean? . . . if there is such a thing as a cartel system, then as a practical matter it ought to be subject to easy definition, simple definition. . . ."⁴¹

The TNEC started its inquiry by reviewing the conventional definitions, especially those of Robert Liefmann, Kurt Wiedenfeld, Herbert von Beckerath, and the one given by the League of Nations' experts in 1927.⁴² In addition, three experts advanced the following definitions: (a) "The essence of the cartel system is an agreement among independent producers in a special line of business on some particular item, whether it be such a matter as discounts, or whether it be price or production. It is . . . voluntarily arrived at. . . . They attempt to mitigate the rigors of competition" (Professor Theodore Kreps).⁴³ (b) "A cartel is an association of independent enterprises in the same or similar branches of industry, formed for the purpose of increasing the profits of its members by subjecting their competitive activities

⁴¹ *Ibid.*, pp. 13039-40.

⁴² Dr. Kurt Wiedenfeld's definition is the following: "In the cartel entirely independent enterprises are bound by mutual contractual agreements merely to follow certain procedures in clearly defined fields and with reference to clearly specified products."—*Encyclopaedia of the Social Sciences*, "Combinations, Industrial," III, 666. According to Dr. Herbert von Beckerath, "a cartel is a voluntary agreement of capitalistic enterprises of the same branch for a regulation of the sales market with a view of improving the profitableness of its members' business."—*Modern Industrial Organization* (New York, 1933), p. 211. Pribram's definition may be found on pages 18-19 of his *Cartel Problems*. Pribram, admitting that "no consensus has been achieved as to an appropriate definition" and that the meaning of the term cartel "in popular speech" is broader than that adopted by him, defines cartels as "combinations of independent producers or sellers of raw materials or manufactured commodities established with a view to limiting the individual risks involved in their business activities by controlling the markets of their products." Pribram's definition is interesting for his emphasis on the risk-restricting tendency of cartels. He distinguishes between two primary aspects of economic relationships, the money-exchange system, and the real-exchange system. Cartels belong to the second concept only. "Trade associations of the typical American varieties are thus excluded" from his cartel concept, as are so-called price-fixing cartels. However, cartellization might be expected to gain a firm foothold and deeply modify the structure of the American economy."—*Op. cit.*, pp. 10, 12, 234. Robert A. Brady recently included a cartel definition in his study, "Policies of National Manufacturing *Spitzenverbände*," *Pol. Sci. Quarterly*, LVI (1941), 216-17. Admitting that the term cartel had lost its old definitiveness, Mr. Brady states that it now means "any sort of compact, whether recognized by law and enforceable through the courts or not, between two or more concerns for the purpose of manipulating one or more of the elements of conducting business to the advantage of the participating parties."

⁴³ TNEC, *Hearings*, Part 25, pp. 13040-42.

to some form of common control" (Professor Clair Wilcox).⁴⁴ (c) "A cartel is a contractual association of legally independent entrepreneurs in the same or similar field of business formed with the intent, effect or potentiality of influencing the market by means of regulation of competition" (Dr. Rudolf Callman).⁴⁵

In its final report the TNEC included definitions of cartels and international cartels. "A cartel is an association of independent enterprises in the same or similar branches of industry, formed for the purpose of increasing the profits of its members by subjecting their competitive activities to some form of common control." The TNEC elaborated on the elements of the cartel concept.^{46a}

Gottfried Haberler has defined international cartels as "uniting the producers, in a given branch of industry, of as many countries as possible into an organization to exercise a single planned control over production and price and possibly to divide markets between the different producing countries."⁴⁶

According to William S. Farish, a cartel is "a combination of competitors to control production and fix prices."⁴⁷

A British scholar, Professor Redvers Opie, defines a cartel as "an intercompany agreement which may or may not contain an element of monopoly."⁴⁸

According to a study of the New York Trust Company, "At the core of all definitions is the fact that cartel activities are arrangements among business enterprises engaged in the same type of industry to avoid or regulate some or all forms of competition."⁴⁹

A publication of the National Association of Manufacturers says that a German cartel is "a combination of producers who attempt to maintain their position and their income by combining against the public."⁵⁰

Assistant Attorney General Hugh Cox says, "A cartel is an agreement between two or more business units operating in the same field of business. The agreement always relates to the way they do business,

⁴⁴ TNEC, *Monograph 21*, p. 215.

⁴⁵ TNEC, *Hearings*, Part 25, p. 13347-48. Dr. Callman intended to include in his definition elements emphasized by German courts.

^{46a} TNEC, *Final Report of the Executive Secretary*, pp. 96 ff.

⁴⁶ *The Theory of International Trade* (New York, 1937), pp. 327-28.

⁴⁷ Bone Committee, *Patent Hearings*, Part 9, p. 5180.

⁴⁸ "What Should be British and American Policy toward International Monopolies?" *The University of Chicago Round Table*, No. 319, April 30, 1944, p. 4.

⁴⁹ *The Index*, Summer, 1944, p. 29.

⁵⁰ Cf. John Scoville and Noel Sargent, *Fact and Fancy in the TNEC Monographs*, New York, 1942, p. 767.

and it always has a restrictive effect." According to Mr. Cox the term cartel is usually applied to a combination of larger firms and it extends to a somewhat larger area.⁵¹

Professor Edward S. Mason defines cartels as follows: "Cartels in the narrow and proper sense of the term, are agreements between firms of the same branch of trade limiting the freedom of these firms in the production and marketing of their products. Cartel agreements aim typically at the restriction of output or sales by member firms, at an allocation of market territories and a fixing of the price of products." According to Mr. Mason current usage broadened the cartel concept to include patent and technological process exchange agreements.⁵²

According to Assistant Attorney General Wendell Berge, "cartels restrict rather than promote trade. Cartels typically engage in such practices as dividing fields of operation and market areas between members so as to eliminate competition, restricting production by agreement, and fixing prices so as to avoid price competition. They also promote various kinds of patent licensing contracts which enable them to control and limit the use of new inventions and thus restrict the benefits of technological advance."⁵³

Professor Corwin D. Edwards says, "A cartel is a group of business enterprises formed for the purpose of avoiding some kinds of competition among themselves. Its members continue to do business separately for their own profit, but they act together in deciding such matters as the prices they are to charge, the amounts they are to produce or to sell, and the share of the markets which is to be regarded as the exclusive right of each of them." Mr. Edwards says that in the United States the term cartel "usually refers to groups which are organized internationally by the businessmen of two or more countries and which are used to prevent or limit competition in international trade."⁵⁴ According to Mr. Edwards, the Anti-trust Division of the Department of Justice used the expression cartel to designate international combinations because of the "foreign flavor" of the term, and this Division applied the expression cartel in international relations to both collective market controls of private entrepreneurs (cartels in the traditional sense) and to combinations of the corporate type.⁵⁵

⁵¹ "Cartels and the Peace," *The University of Chicago Round Table*, No. 277, July 11, 1943, p. 2.

⁵² "The Future of International Cartels," *Foreign Affairs*, July, 1944, p. 604.

⁵³ Press Release of the Department of Justice, February 12, 1944, about address delivered at a conference of *The People's Lobby*.

⁵⁴ *Consumer Reports*, August, 1944, p. 216.

⁵⁵ "Thurman Arnold and the Antitrust Laws," *Political Science Quarterly*, Septem-

Joseph Borkin and Charles A. Welsh include voluntary and compulsory unions of entrepreneurs, domestic and international, as well as all intercorporate combinations (trusts), in their cartel concept. Even inter-governmental commodity agreements are called cartels.⁵⁶

Professor Heinrich Kronstein writes: "A cartel is a combination between two or more enterprises to regulate the quantity and quality of goods to be produced, the prices to be paid, the conditions of delivery to be required and the markets to be supplied."⁵⁷

It may be useful to list here a definition of international cartels derived from a Nazi economist. According to Helmut Linke, "A cartel is an association of mutually independent entrepreneurs who supply or purchase the same kind of commodities and services. The purpose of the association is to reach agreements upon regulation of the market as to prices and supplies. An international cartel consists of entrepreneurs belonging to different states."⁵⁸

No mention is made here of definitions contained in legal regulations of the European Continent and elsewhere because they are not significant from the aspect of this study.⁵⁹

All these definitions give some idea as to the various meanings of the word cartel to different persons. In most of them two significant characteristics of cartels seem to be indicated. First, cartels operate in the same or similar industries; and secondly, they aim to restrict or

ber, 1943, p. 344. According to Mr. Edwards, "Although [Thurman] Arnold occasionally spoke of 'domestic' cartels, he did not usually employ the term to cover domestic restraints of trade."

⁵⁶ Joseph Borkin and Charles A. Welsh say: "... a cartel means a combination or agreement, national or international in scope, in which the members, whether corporations or governments, seek to control one or more phases of the production, pricing, and distribution of a commodity. Most cartels of the modern type are trusts which govern whole fields of technology through patents, know-how, or control of facilities." —*Germany's Master Plan* (New York, 1943), p. 12. (Hereafter cited Borkin and Welsh, *Master Plan*.)

⁵⁷ "European Cartels," *Commonweal*, June 4, 1943, pp. 171-72.

⁵⁸ *Nationalwirtschaft und Internationale Kartelle* (Würzburg, 1938), p. 12.

⁵⁹ The German Emergency Decree of November 2, 1923, "Against Abuse of Economic Power (Cartel Decree)," determined in its first chapter the meaning of syndicates, cartels, conventions and similar agreements, by a common definition. The Czechoslovak statute of July 12, 1933, concerning cartels and private monopolies, defined cartel agreements as follows: "Cartel agreements according to this statute are agreements of independent entrepreneurs through which the parties in the agreement oblige themselves to limit or to eliminate among themselves freedom of competition through regulation of production, sales, business conditions, and prices; provided that the objective of these agreements is as efficient as possible domination of the market. In case these agreements relate to transportation, credit, or insurance, the provisions of the statute relate to price-tariffs as well." Cf. Ervin Hexner, *La Loi Tchécoslovaque sur les Cartels* (Prague, 1935), *passim*.

reduce competition. Other characteristics tend to vary with the personal experience or prejudice of the writers. The definition used in this study describing the cartel as a voluntary, potentially impermanent, business relationship of a number of independent, private entrepreneurs which through co-ordinated marketing significantly affect the market of a commodity or service, does not include either of these characteristics for reasons mentioned heretofore.⁶⁰

One is moved to wonder whether the introduction of new verbal symbols would promote understanding in the cartel field. It might prevent use of the same sign vehicle to designate both cartels and cartel members,⁶¹ public compulsory marketing agencies (like the Japanese State Camphor Selling Agency),⁶² and private entrepreneur relationships. The substitution of the expression "private collective marketing control" for cartel is worthy of serious consideration. The phrase is somewhat lengthy, but free from emotional coloration which attaches to the latter term. Such revision of terminology would permit the inclusion in the concept of common sales syndicates used in Europe, and other marketing controls customary in Europe and in other parts of the world. Further divisions could be made for domestic and international control schemes, for government controls ("public collective marketing control") and a separate category could be made for those controls whose "collectiveness" is based on legal regulations ("compulsory collective controls"). Marketing controls resting with individual firms, or with structures connected by corporate ties, could be conveniently separated by this terminology. If statesmen and the public of various countries wish to be enlightened on this problem, the substance of the issues should not be confused by terminology wasteful for laymen and experts alike.⁶³

⁶⁰ *Supra*, p. 24.

⁶¹ According to the Kilgore Committee, "The word [cartel] may also be used to denote the participating group." *Findings and Recommendations*, Nov. 13, 1944, Part I, p. 1, footnote 1.

⁶² J. B. Condliffe and A. Stevenson, *The Common Interest in International Economic Organization*, ILO (Montreal, 1944), p. 56.

⁶³ Cf. Ervin Hexner, "International Cartels in the Postwar World," *Southern Economic Journal*, October, 1943, p. 116. The International Business Conference, Rye, N. Y., November, 1944, avoided use of the term cartel in its resolution on international cartels. Sir Clive Baillieu, member of the British delegation and chairman of the section on cartels, suggested the abandonment of the term cartel in favor of "trade accord." Cf. *The New York Times*, November 16, 1944, p. 27.

CHAPTER III

Private Restrictions by Cartels

1

ONE OF THE MOST COMMON CRITICISMS of international cartels is that these institutional arrangements indulge in socially undesirable restrictionalist measures.¹ Next to the objection that they undermine political democracy and international peace, this "restrictionalist objection" is the most serious of all adverse generalizations about international private marketing co-operation. Any defense of private restrictionalism upon the basis that governments indulge in similar practices is not justified, since public restrictionalism may be based upon other considerations. In defense of international cartels the argument is often made that maladjustments resulting in "over production" require restrictive measures. Such a defense may be valid to some extent in exceptional cases (e.g., sugar and wheat). In most cases the reasons for "under-consumption" should be analyzed. If we may judge by what statesmen and economists are currently saying, the future world economy will produce more goods and distribute them more equitably than ever before. This prediction implies that private social institutions which are obstacles in the way of expansion and equitable distribution have to be modified, perhaps destroyed.

It would be a mistake to assume that all criticisms of international cartels originate from sources outside the group of cartellized entrepreneurs. In some instances those accused of "restrictionalism" justify their conduct as mere reactions against monopolistic combinations of

¹ Put into other terms this objection says: If an international cartel (with or without outside competition) controlled the market of commodity c , the average price in a period of three years being p , the volume of trade in the international market v , and the volume of world production of that article (including production which did not enter international trade) z , the market situation of commodity c in the absence of the international cartel would result in v and z being as to volume more, and p either the same or lower.

consumers or suppliers. They call their own "restrictionalism" "anti-restrictionalism." A recent example may throw light on this problem. Crude rubber has been perhaps the most frequent object of attacks against "restrictionalism." An official report of the International Rubber Regulation Committee justifies artificial restriction measures as "an answer, even though not a perfectly articulate or wholly conscious one, to the growing tendency of manufacturers who were the immediate consumers of the commodities to combine in monopolistic groups for the control of prices; successful operation by such groups or cartels generally, if not necessarily, meant a restriction of production and was, therefore, opposed to the interest of their raw material suppliers. Counter restriction commended itself as a measure of protection against protectionists and the users of devices in restraint both of international and domestic trade."²

The argument against restrictionism is not merely an argument against international cartels. The entrepreneur, whether or not he is in a cartel, is allegedly interested in scarcity. Philip H. Wicksteed described this general restrictionist phenomenon as follows: ". . . every one benefits by a good crop in the things he does not grow, but may very well be injured by a good crop of what he does grow, and if his individual crop was for any reason only an average one, then his loss would be certain. . . . But if the thing that I supply becomes *relatively* more abundant, and ministers to a relatively less urgent need, my command of what I want declines just because your command of what I give increases. Hence the paradoxical situation that the advance in well-being which we all desire and are all pursuing becomes an object of dread to each one of us in that particular department in which it is his business to promote it. That is to say, because it is my social function to supply the world as well as I can with a certain thing, therefore, I dread the world's being so well supplied with it that I shall be able to get little or nothing for supplying more." Wicksteed remarks on the gospel of scarcity thus: "The mischief is that this gospel is always privately true and always publicly false. And to press its public falsity will always be regarded as hardhearted, until the private truth to which it points is tenderly considered."³ Scarcity, natural and artificial, results in pressure against those who need commodities and services. Consumers will pay more and adjust themselves to the requirements of suppliers according to the effectiveness of the scarcity.

² *History of Rubber Regulation*, Introduction.

³ Philip H. Wicksteed, *The Common Sense of Political Economy*, Lionel Robbins, ed. (London, 1933), I, 351, 356.

It is evident that such pressure can be more effective if all suppliers co-operate (including the suppliers of substitutes). Wicksteed's assumption is borne out to a considerable extent in practical life. However, the farmer does not always enjoy poor crops as Mr. Wicksteed assumed, and there are many entrepreneurs who try to expand their production and supplies in the face of lower prices in order to gain larger or more stable total profits.⁴ Thus not the high unit profit, but the largest total profit in the long run, is the goal of the average entrepreneur. Naturally, the minimization of risks is also considered by the entrepreneur in making decisions. Opinions about the repercussions of artificially stabilized supplies and prices vary considerably.⁵ It is our purpose here to consider artificial stabilization of supplies and prices insofar as these are achieved by the restrictive action of international cartels.

2

The term restriction in cartel discussions means the withholding by the collective action of producers or exporters of a portion of production or supplies that otherwise would have been made available in the market. Restriction is frequently held to imply the artificial retention of high-cost producers in the market and inadequate response of prices to changes in demand⁶ and costs. Sometimes the detraction of supplies from export trade in order to supply the domestic market, and vice versa, has been considered as restriction.⁷

It is often assumed that other factors being equal the volume of

⁴ The recent report about the rubber market says: "Restricted production at a given price is by no means so desirable, either for the producer or consumer, as full production at a considerably lower price which encourages new uses" (*History of Rubber Regulation*, p. 147). Naturally the question is the price range in such cases.

⁵ A collection of pertinent opinions is listed by Gottfried Haberler, *Prosperity and Depression* (Geneva, 1941), pp. 492-94.

⁶ An interesting situation in rubber supplies occurred when the American Government attempted to buy rubber in a period when the sellers' position was strong. The American Government agreed on rubber prices with the International Rubber Regulations Committee. This Committee loosened quota restrictions in order to keep prices at a certain level. Due to exceptional demand, the suppliers refused to sell at that price. Whereas the American Government attributed its difficulties in acquiring rubber to the rigid cartel quota policies, the cartel gave as one reason for the delay the desire of the American Government "to purchase the rubber without any undue effect on price."—*History of Rubber Regulation*, p. 126.

⁷ During the boom period in the first half of 1937 domestic jobbers in Belgium accused their national steel cartel of restricting domestic steel supplies in favor of export markets. At the same time a motion in the House of Commons to restrict steel exports because the domestic steel shortage was hindering rearmament and causing unemployment was not carried. Export trade was considered of "fundamental" importance. Cf. Hexner, *Steel Cartel*, p. 219.

trade in a commodity would be larger in the absence of international cartel measures (quotas) designed to fix the amount of supplies. The effect may be either to contract "normal" trade volume or to prevent expansion. It is also frequently assumed that efficient producers voluntarily suppress potential expansion. Lionel Robbins expresses the "restrictionist objection" as follows: International marketing controls "tend to make production as a whole less than it otherwise would be. The dilemma is inescapable. Either the quotas are the same as they would be with restriction—in which case they are unnecessary—or they are different—in which case they are harmful. There is no third alternative. This drawback would probably be generally admitted. That restrictionism restricts is not a proposition which would be often contested. The restriction scheme means not only that *at any moment* the volume of production is restricted; it means also that *from moment to moment* the more efficient producers are prevented from displacing the less."⁸

W. H. Hutt puts this objection in a more general way. According to him, "Private enterprise simply suffers from a serious disease, a disease which consists of various devices which we have wrongly come to believe are essential for the earning of reasonable profits. . . ." In his opinion, "A study of modern statute books shows that at least half the legislation is intended to foster a policy of scarcity creation. Practically the whole of the marketing and industrial laws of modern countries appear to be designed to make goods and services relatively scarce." In the opinion of Mr. Hutt, this policy is supported by governments, entrepreneurs, and labor unions. He complains that in Great Britain "Right and Left co-operated harmoniously when it was a question of curbing productive power." Professor Hutt quotes as a blatant example of unjustified collective restriction the scrapping of excess shipyard capacity in England with the full support of the British Government and the Bank of England.⁹

The traditional American view of cartels is that they are restrictive in both purpose and effect and that this restriction is undesirable.¹⁰

⁸ Lionel Robbins, *Economic Planning and International Order* (London, 1937), pp. 136-38.

⁹ *Plan for Reconstruction* (London, 1943), pp. 71, 77; see also *House of Commons Debates*, March 28, 1939, Col. 1851 ff.

¹⁰ There are isolated views, held by people in this country, which regard such generalizations as exaggerated. One of them states, "This school of thought, generally, also seems to go on the theory that any one who touches alcohol is a drunkard, or that any one who eats is a glutton—at least potentially."—"Cartels—A Program," an address by John W. White, President of Westinghouse International Company, before the 2nd general session of the National Foreign Trade Convention, New York, October

Prominent among a group of writers that holds the opposite view concerning restrictive activities of industrial combinations is Joseph A. Schumpeter. His treatment seems particularly interesting because he divorces economic objectives from moral considerations and because among known authors he may be designated as the most outspoken in his favorable attitude toward private monopolistic practices. Schumpeter attributes the tendency of entrepreneurs to create "vested rights" situations through monopolistic practices to the inherent requirements of large-scale, long-term investment. He contends that a "strategy which looks so restrictive when viewed in the individual case and from the individual point of time . . . has come to be the most powerful engine of that progress and in particular of the long-run expansion of total output."¹¹ According to Schumpeter, "restraints of trade of the cartel type as well as those which merely consist in tacit understandings about price competition may be effective remedies under conditions of depression. As far as they are, they may in the end produce not only steadier but also greater expansion of total output than could be secured by an entirely uncontrolled onward rush that cannot fail to be studded with catastrophes."¹²

Professor Redvers Opie takes a more moderate view toward the restrictions for which international cartels may be responsible. His discussion does not contain any approval of past cartel practices, but pertains to the post-war period. According to Opie, private entrepreneurs in international trade should be able to co-operate if certain restrictions of trade result in conservation of natural resources or if these restrictions are required in order to limit unnecessary investment or to dispose of unabsorbed surplus commodities. He does not oppose under all circumstances the assignment of marketing areas.

10, 1944. A recent antitrust proceeding against the General Electric Company and its subsidiary, the International General Electric Company (and six foreign co-conspirators), is a good example for the controversies on this point. According to the Antitrust Division, without the cartel agreements objected to, "in effect the capacity to produce electrical equipment here would have been greater when the present war started." Charles E. Wilson, President of the G.E., contradicted this assumption. According to him, "These agreements have not curtailed our war production capacity. Foreign agreements such as these have essentially been moves to expand trade, not to restrain it." *The New York Times*, January 19, 1945, p. 11.

¹¹ Schumpeter, *Capitalism, Socialism and Democracy*, New York, 1942, p. 106.

¹² *Ibid.*, p. 91. Discussing the shifting of the point of the monopolist's optimum toward or beyond the competitive cost prices "even if restriction is practiced and excess capacity is in evidence all along," Schumpeter distinguishes between "ordinary cartels" and other forms of monopolistic organizations. He writes, "Of course if the methods of production, organization and so on are not improved by or in connection with monopolization as in the case of an ordinary cartel, the classic theorem about monopoly price and output comes into its own again."—*Ibid.*, pp. 101-102.

However, he opposes all restrictive practices which are not reconcilable with the public interest and he regards consultation of governments and supervision by national governments as necessary to safeguard the public interest. As the government in a democracy is the representative of the public, Opie does not believe that government supervision of business necessarily leads to fascism. According to Opie, cartel restrictions may under certain circumstances be the lesser of two evils when compared with unrestricted competition.¹³

All these and similar opinions need clarification in several respects. The problem of scarcity creation by international cartels is not as transparent as it appears. On the first view it would seem that in the hypothetical situation existing in the absence of cartel restrictions, the volume of production (including domestic trade) of an individual entrepreneur would be larger, or his export larger. Such a proposition, however, may apply not only to the restrictive effect upon the individual entrepreneur but also to the effect upon the volume of national production or export trade of a certain commodity. Furthermore, it may relate to the world production or trade of that commodity. Finally, it may relate to the total volume of production or trade in all commodities.¹⁴ It is not always mentioned that cartel measures may result merely in shifts in production or trade. Frequently the elasticity of demand is left out of consideration. Restrictionalist arguments are seldom founded on penetrating market analyses. An apt illustration is furnished by Mr. Hutt's above-mentioned complaints on international and national restrictions upon shipping space and shipping. Mr. Hutt says that "A whole volume would be required to trace out in detail the repercussions of the shipbuilding restrictions."¹⁵ Then by all means before any sweeping conclusions are drawn the writing and publishing of a "whole volume" is imperative. Lionel Robbins has clearly recognized this necessity. He analyzes the "inevitability" of monopoly in practical business situations. According to him, "we have to look more deeply into the actual condition of industry." His subsequent survey falls far short of an adequate empirical investigation.¹⁶

¹³ "What Should be British and American Policy toward International Monopolies?" *The University of Chicago Round Table*, No. 319 (April 30, 1944), *passim*.

¹⁴ An editorial in the *New York Times* entitled "Needless Trade Fears," assumes that the British desire to curb American exports in order to give "leeway" to others would result in a smaller volume of world production and trade.—*The New York Times*, October 23, 1944, p. 18.

¹⁵ Hutt, *Plan for Reconstruction*, p. 74.

¹⁶ Cf. *The Economic Basis of Class Conflict* (London, 1939), pp. 51 ff.

Another defect of sweeping generalizations on restrictionalist measures is the failure to discuss the available alternatives. The effect of the absence or removal of restrictions upon the individual producer, the national production, or export of the commodity is not considered. Some take it for granted that the removal of restrictions would immediately result in workable and effective competition.¹⁷ For instance, Clair Wilcox writes in a Monograph of the TNEC that "... monopoly is frequently the product of factors other than the lower costs of greater size. It is attained through collusive agreements and promoted by public policies. When these agreements are invalidated and when these policies are reversed, competitive conditions can be restored."¹⁸ The final report of the TNEC reaches similar conclusions.¹⁹ Friedrich A. Hayek feels that these TNEC studies were the "best evidence available," and used them to support his thesis that competition is almost always the only workable alternative to combination.²⁰ However, nowhere in the TNEC studies is there an attempt to elaborate comprehensively on workable alternatives to restriction. Thus the value of the TNEC studies as "evidence" in this regard is still open to question. Although the opinions presented in the studies may be correct, they are unsupported by adequate empirical data or detailed speculation. According to H. D. Dickinson, "The whole conception of Institutional Restriction and Revenue contains the implicit assumption of a social system involving no Institutional Restriction, with which the existing system is compared. What, then, is the hypothetical standard with which existing income distribution is compared?" Dickinson states that "The answer to this question is that in effect the hypothetical basis of comparison is either the ideal individualistic society or the ideal communistic society."²¹ Cartel criticism cannot be based, and is not based in practice, on such extreme (ideal) situations.

Suppose we compare the actual situation on the international lamp market or on the international rail market dominated by international

¹⁷ According to George Halm, *Die Konkurrenz* (Munich, 1929), p. 142, "the elimination of free competition is not the result of the union of entrepreneurs but this union is caused by the absence of free competition." Halm ascribes certain fallacies in the conception of competition to a lack of understanding of modern technological development.

¹⁸ Monograph No. 21, p. 314.

¹⁹ Final Report and Recommendations of the TNEC, p. 89.

²⁰ Friedrich A. Hayek, *The Road to Serfdom* (Chicago, 1944), pp. 44-45. It is interesting to note that Professor J. Anton de Haas considers as the alternative to many international cartels "chaos."—*International Cartels in the Postwar World*, National Economic Problems No. 404 (New York, 1944), p. 41.

²¹ *Institutional Revenue* (London, 1932), p. 187.

cartels with a hypothetical situation in which neither of these cartels operated. The hypothesis could be expanded to assume that exporter countries would prohibit home market protection, domestic cartelization, exclusive patent licenses, and that no country would maintain trade barriers which unreasonably protect domestic production. With great probability the price differential between domestic and world prices in an uncartellized lamp market would have been different. In the case of rails it is doubtful whether such differentials would have changed. It seems likely that price fluctuations would have been greater in both commodities. Shifts in production and exports would doubtless have occurred among various countries. Whether in the long run the total volume of production and trade in either commodity would have increased and whether average prices would have decreased depends on many factors besides cartelization. Whether a more desirable situation from the social point of view would have arisen depends among other factors upon the predilections of the investigator. Although such investigations are fraught with difficulties, they are nevertheless possible and necessary.²²

3

There are many kinds and degrees of cartel restrictions. They may affect both business conditions which the cartel is powerless to control directly and those which it may deliberately alter or influence. Cartel restrictions may be broadly classified as:

- (a) self-restriction of participants (mutually conditioned)
- (b) restrictions imposed upon real or potential competitors
- (c) restrictions imposed upon consumers and distributors.

(a) Self-restriction implies that the entrepreneur is withholding something, that he is refraining from what he could and would do in the absence of restrictive measures. This may apply not only to unused capacity and withholding of stocks but also to the refraining from investment. The withholding may among other things relate to export or production of a certain quantity, or to offering his wares only in a certain territory. Self-restriction may take the form of abstaining from active rivalry without any formal stipulation to that effect.²³ A concern may agree to a fixed export quota, but, if in the

²² Gottfried Haberler discusses the problem of the limits of expansion under competitive and monopolistic conditions in *Prosperity and Depression*, pp. 372 ff.

²³ According to Robinson (*Monopoly*, p. 29), "We cannot assume that where there is no agreement, even of a tacit nature, competition exists." See e.g., the price leadership system in plexiglas between Du Pont and Röhm and Haas, in Bone Committee, *Patent Hearings*, Part 2, pp. 703, 905 ff.

absence of the agreement it would not have exceeded the quota, no self-restriction is present in substance. The skeptical observer will then want to know what the real purpose of such an agreement was. Its purpose lies in the foreknowledge of what a potential competitor intends to do. This assurance will influence the market behavior of his colleagues. Knowledge of a potential competitor's plans in regard to the export market alleviates risks to a considerable extent. This is not to say that agreements which do not result in restriction are good, for even this type of agreement may operate against the welfare of the consumer. However, it is important to note that every regulatory agreement need not restrict production. To show how difficult it is to envisage hypothetical situations of markets and producers which would occur in the absence of self-restrictions, a few passages may be quoted from the concluding part of the report of the International Rubber Regulations Committee:

The Committee's function was "to adjust in an orderly manner supply to demand and maintain a fair and equitable price level which will be reasonably remunerative to efficient producers," and an initial difficulty at once arises from the fact that "efficient producer" cannot in this context have its ordinary and accepted economic meaning. An efficient producer, in common parlance, is one who can produce a saleable commodity and sell his output at a price which will cover all his costs, including depreciation, and leave him a margin of profit. Further, the usual conception of economic efficiency implies ability to sell at a profit *in a free market*; it may be doubted whether the term is applicable in the case of a regulated market, and apparently the Committee was required by the terms of its mandate to argue in a circle or assume what it had to establish. Efficient production is production at a reasonable profit; but profitability depends on price and the duty of the Committee was to aim at a price level which was to be established by the efficient producer.

This fundamental difficulty may be expressed in another way. Supply was to be adjusted at a figure which would produce a price remunerative to efficient producers; this implies that it is possible to arrive at an appreciation of efficiency which is not dependent on market price and ability to sell profitably, but if the price is not a free market price but an artificial one (as it is *ex hypothesi*) there will always be some producers who can sell at that price and make profit; which those producers are cannot be ascertained until the price is determined. On the other hand it is impossible to define a price which will remunerate efficient producers until it is known what efficient production means. The Committee was therefore required to define efficient production in terms of price and to determine price in terms of efficient production.

Nor does this constitute the whole of the dilemma. A given price in the regulated market is remunerative to one set of producers when they are allowed to produce a given percentage of their potential output. If consumption at that price increases and outstrips the regulated production, one of two things must happen; either production is not increased and prices rise as stocks fall, or production is increased and costs fall; whichever happens the circle of efficient production is enlarged.²⁴

Although it is probable that in the majority of cases a permanently competitive market would result (assuming a fair elasticity of demand) in a larger volume of international trade, it would be most useful to support this assumption by extensive factual investigations. The mere fact of restriction does not necessarily mean that in the absence of the restriction the volume would be greater or that prices would in the long run be lower. In addition, the absence of express restrictions of the cartel type may result in a much more obnoxious monopolistic situation. E. A. G. Robinson exposes the fallacy that competition and increased volume necessarily exist in the absence of restrictive agreements. He looks with skepticism upon the advantages of the mere breaking-up of a monopoly into its constituent parts. Mr. Robinson's description of a situation, called by him "cat-and-mouse monopoly," in which firms not connected by restrictive agreements refuse to compete, is highly instructive.²⁵

There is great probability that restrictive measures which contract production or supply are socially undesirable. However, there may be cases in which self-restriction is necessary in order to increase the volume of world trade in the long run, to co-ordinate the use of natural resources, to stabilize employment through the business cycle, or for other reasons. In order to understand the true nature of restriction it is necessary to abandon the theological claim to certainty about its traditional implications, thus leaving a wider margin of possible deviation.

Legal measures may be used to prohibit *external* (manifest) acts to establish cartels. The Sherman Act is such a regulation. Such a prohibition does not necessarily result in active competition. Any attempt to enforce active competition in international trade would be even more complex than similar attempts in the domestic sphere. However, a public national or international agency may exclude from public bidding and other controlled activities entrepreneurs who have in-

²⁴ *History of Rubber Regulation*, pp. 145-46.

²⁵ *Monopoly*, pp. 24-30.

dulged in monopolistic practices.²⁶ Public trade restrictions obviously may be used to discriminate against monopolistic entrepreneurs. For instance, they may be charged higher import duties.

It is generally known that many European countries either have refrained from legislation designed to prohibit restraint of trade and production or have regulated private restrictions. This policy has as its foundation not only economic considerations but also the legal doctrines of "freedom of contract" and "freedom of individual enterprise."²⁷ Mr. Wendell Berge, Assistant Attorney General, writes with reference to the United States' entrepreneurs, that "the basic concept of free enterprise is the antithesis of a cartellized market. Yet, all too frequently some of our industrialists have had the effrontery to attempt to promote a pro-cartel policy by a specious appeal for free enterprise. The pretension is that freedom to compete in trade must encompass freedom to suppress competition."²⁸

Actually, there is confusion of thought concerning whether free enterprise implies the freedom to refrain from competition, though it is safe to state that freedom of enterprise does not imply freedom actively to suppress the competition of others. This situation is somewhat analogous to the condition surrounding freedom of religion. Some persons would not admit that freedom of religion necessarily tolerates atheism. There are interpretations of the freedom of coalition

²⁶ The Panama Canal Act (Act of August 24, 1912) is a useful illustration of this policy.

²⁷ The question whether freedom of individual enterprise includes the freedom to combine in marketing controls has often been raised in England. E. A. G. Robinson asserts that in Great Britain this question has been decided in the affirmative. (Cf. *Monopoly*, p. 277.) In a British official report the following opinion is advanced: "A man has the right to trade as he pleases. A manufacturer or merchant may refuse to sell his goods to anyone who wishes to buy them, or he may sell them on such conditions as he thinks fit to impose." Furthermore, "It appears to us that the maintenance of freedom of contract and the right to combine is as much a matter of public interest in the sphere of commerce as it is in that of employment. It is inevitable that this freedom should lead to hardship in individual cases."—*Restraint of Trade, Report of the Committee Appointed by the Lord Chancellor and the President of the Board of Trade to consider certain trade practices* (London, 1931), pp. 5 and 23. The same may be derived from an official statement of the Swiss Department of Justice. Cf. H. P. Zschokke, "Die schweizerische Kartellgesetzgebung und ihre verfassungsrechtliche Grundlage," *Kartell-Rundschau*, 1938, pp. 261 ff. See also Friedländer, *Kartelle, passim*, and George Halm, *op. cit.*, p. 141. John Stuart Mill touched on this question indirectly in his essay "On Liberty." "The principle of freedom cannot require that he should be free not to be free. It is not freedom to be allowed to alleviate his freedom." He exempted from his proposition those engagements that relate to "money or money's worth."—*Utilitarianism* (Dent Edition) (London, 1936), p. 158.

²⁸ *Cartels: Challenge to a Free World*, Washington, 1944, p. 4. (Hereafter cited Berge, *Cartels*.)

which imply that it means also freedom not to join an employer or employee union.

(b) Collective marketing controls of entrepreneurs may result in restricting the economic activities of entrepreneurs who are real or potential competitors of the cartel. There are many types of measures used against these outsiders. The selling of semi-finished commodities at discriminatory prices is a well known example. Those competitors who do not produce but do consume semi-finished material may be held in line by threats of not delivering semi-finished material or of delivering it at higher prices to them.²⁹ Many kinds of exclusive contracts are used in the same manner. The threat or use of "cutthroat" competition may restrain the activities of competitors.³⁰ German terminology calls restrictions imposed upon other than cartel adherents "äusserer Organisationszwang" in contrast to the internal discipline within the cartel, which has been called "innerer Organisationszwang."³¹ The denial of the use of certain patents, necessary to production, which are controlled by the cartel or its members may also serve a similar purpose as shown in the case studies of this volume. A cartel may threaten to invade a competitor's market if he enters the interest sphere of the cartel. Thus an oil group might threaten to enter the market of a chemical group if the chemical group entered its market.

(c) Cartels may impose restrictions upon distributors or consumers of the commodities produced or sold by its members. Among the restrictions imposed upon distributors may be "exclusive agency" contracts which prevent them from dealing in commodities competing with those of the cartel. Price maintenance agreements may prevent the distributors from selling at prices other than those imposed by the cartel. The ownership by the cartel or its members of distribution organizations, or the threat to organize such, may force independent distributors to co-operate. The cartel may force the distributors to form a cartel in order to insure more efficient distribution. Cartels may impose conditions of sale upon distributors which may require advance cash payments for commodities sold to distributors. These

²⁹ Cf. Hexner, *Steel Cartel*, pp. 121 and 244. The International Rail Agreement reads: "No Ingots, Blooms, or other partly finished steel to be used for the manufacture of Rails . . . shall be sold by any of the Groups for delivery in the Reserved Areas of any other Group or into Neutral Countries."

³⁰ Cf. e.g., "Outsider Competition and Price Reductions," in Kilgore Committee, *Mobilization Hearings*, Part 16, p. 2214.

³¹ Cf. Dr. Siegfried Tschierschky, *Die Begrifflichen Grundlagen der Sperre und der Nachteile von ähnlicher Bedeutung* (Berlin, 1933), *passim*.

problems are dealt with at greater length in the chapter on cartel policies.

Many of the restrictions imposed upon distributors or competitors are felt by consumers. For instance, price maintenance agreements mean that the consumer is forced to buy at a price set by the cartel. Cartel regulations may limit the variety of goods available for purchase by consumers. Self-restriction of production together with restrictions imposed upon competitors may limit the supply of goods available for consumption. Ownership or control of distributing agencies by cartels or their members leads to regimentation or limitation of the variety and quality of services given to consumers. On the other hand, more efficient methods of distribution may be introduced, giving the consumer better service, perhaps at lower prices. The effect of price maintenance agreements may be that the consumer is given more assurance as to his future costs in regard to raw material, and hence is able to plan with more certainty. As far as the cartel introduces stability into its price and production policies, it may promote certainty instead of uncertainty, and as far as these policies modify the effects of the business cycle, the consumer may benefit. The allocation of customers and markets may involve very severe restrictions upon customers.

International cartels may deliberately create either absolute or relative scarcity of a commodity by their price or production policies. This may ultimately result not only in the transfer of purchasing power to commodities and services which are less scarce but in a reduction of the absolute volume of production and trade.³² Edward S. Mason writes: "Whether the patents and processing agreements between American and German firms have on balance, hampered American war production, is, however, an open question. To answer it we would need to know the value of the technical knowledge disclosed by each side to the other and the uses to which this knowledge has been put. To date only one side of this story has been told."³³

There is little doubt that the balanced expansion of production and foreign trade after the war will require the removal of many kinds of customary private restrictions together with the introduction of new restrictions. The problem of self-restriction is connected with the

³² An editorial in the *American Metal Market* of February, 1943, about the often-attacked tin marketing scheme claims: "The Restriction Scheme did not perform miracles but it brought order out of disorder to the benefit of consumers all over the world, who, by the way, paid a lesser price for tin under controlled conditions than they did prior to the formation of what the critics are pleased to call the 'Tin Cartel.'"

³³ "The Future of International Cartels," *Foreign Affairs*, July 1, 1944, p. 611.

practical issue of whether the advantages resulting from restriction may be classified (from the point of view of public policy) as efficiency profits or scarcity profits.³⁴ In dealing with restrictions imposed by the cartel upon other persons attention must be given to the question of whether the restricting agency is under the control and responsibility of a government. International cartels frequently have been designated "private governments" operating in a legal vacuum. International cartels, however, are unions composed of national entrepreneurs. If a government because of political considerations does not feel equipped to control the economic activities of its entrepreneurs, it has to be held responsible for its own impotence. Otherwise, orderly international intercourse is impossible. The principal basis of Mr. Wendell Berge's contention that international cartels compose private governments is that governments lacked knowledge of these marketing controls.³⁵ It is to be hoped that in the future governments will themselves take appropriate measures to have restrictive agreements reported.

In considering restriction problems it is most important to take into account recent suggestions concerning the establishment of private associations of entrepreneurs with the purpose of enlarging production in a balanced way and of lowering prices as far as possible. A detailed account of this idea is contained in Edwin G. Nourse's book *Price Making in a Democracy*.³⁶ Nourse substitutes for the orthodox interpretation of the "Invisible Hand" doctrine of Adam Smith the doctrine of "The Seen Hand and Guiding Brain." He suggests as a basis of the new economy "truly enlightened self-interest if the system is not to destroy itself—and hence its administrators."³⁷ He expresses some doubts as to whether American public agencies would accept such combinations in "promotion of trade" as legal.³⁸ There is no reason why Dr. Nourse's suggestion should not be applied to international trade.

³⁴ Cf. Foreman, *op. cit.*, *passim*.

³⁶ Washington, 1944.

³⁵ *Ibid.*, p. 414. Dr. Mordecai Ezekiel discussed concerted action of private industries to expand production and reduce prices under some form of government participation. According to Mr. Ezekiel, "the anti-trust laws are solely directed against combinations in restraint of trade, and . . . there has never been a case to test whether combinations for the expansion of trade would be similarly illegal." Cf. TNEC, *Hearings*, Part 26, pp. 1368 ff. When the President of the International General Electric Co., Mr. Clark H. Minor, was asked in a Congressional hearing whether he had any suggestions whereby the United States might increase its participation in international shipping after the war, he replied, "that is one place where I think you need an international cartel, with the aid of government. . . ."—*Post-War Planning Hearings*, Part 4, p. 919.

³⁸ *Cartels*, p. 208.

³⁷ *Ibid.*, pp. 447-49.

CHAPTER IV

The Structure of International Cartels

I

THE READER INTERESTED in specific patterns of cartel behavior and in the organizational framework designed to maintain and preserve that behavior will have to resort to the case studies included in this volume. Naturally, the case studies do not include many forms of tacit and secret understandings. This chapter attempts to convey a few principles which make possible a rough classification of cartels. The following scheme for cartel classification is admittedly imperfect. Many aspects and items are omitted, and the categories included are fragmentary.

International cartels may be classified according to many guiding principles. It is improbable, however, that any scheme would embrace all cartels developed in practical life. Most important material aspects of classification could be worked out on the general basis of risk-bearing, or on the internal dynamics of controls. This latter basis would show how the frictionless surface of a collective control often deceives the superficial observer about the absence of internal rivalry in international cartels.

STRUCTURAL CLASSIFICATION OF INTERNATIONAL CARTELS

I. General cartels and specific cartels

1. involving a group of interrelated commodities (services)
2. involving one well-defined commodity (service)

II. Territorial extent

1. involving both domestic and foreign markets of members
2. involving foreign markets only (exports and/or imports)
3. involving home market protection only
4. virtually world-wide
5. extending only to one foreign country or to a few neighboring countries (economic region)

6. establishing reserved markets for members, including empire protection

III. External appearance and administration

1. explicit agreements (written and verbal)
2. tacit understandings
3. secret understandings
4. limited or complete publicity
5. administered by participants only
6. administered by a third person (trustee)
7. incorporated companies specifically established to administer control
8. administration by bodies of a quasi-corporate nature
9. administration by itinerant committees
10. administration by public agencies
11. administration by trade associations

IV. Persons and agencies co-operating

1. private entrepreneur-producers
2. distributors (including agents and distributor cartels)
3. national and regional groups of entrepreneurs
4. mutually co-operating international cartels of related commodities (comptoirs)
5. non-cartel members co-operating according to special arrangements, including arrangements with friendly outsiders
6. governments co-operating as public agencies
7. public corporations as ordinary cartel members

V. Relationship of participants

1. participation based on specific legal instruments like patents, trademarks, etc.
2. participation based on general legal instruments (contracts)
3. participation without formalized legal instruments
4. participation based on express though legally non-binding agreements
5. private participants connected through diplomatic agreements of their governments

VI. Immediate items under control

1. delineation of interest spheres (e.g., chemical field)
2. common or co-ordinated purchasing
3. regulation of capacity, including all kinds of investments
4. regulation of production (quality, quantity, processes, including agreements on non-production)
5. regulation of distribution, including stocks (fields of use, assignment of sales territories and customers, exclusive marketing, commonly-owned sales agencies and subsidiaries, exchange or

transfer of trademarks, freight equalization systems, price leadership, regulation of all kinds of price and non-price competition)

6. Arrangements based on the technological process (common or co-ordinated research, exchange or transfer of secret technological experience, patent licensing and exchange)
7. Sharing of profits and returns (equalization of profits through compensation and fines for quota excess and deficits, pooling of returns and profits, distribution of sacrifices occurring in fighting outsiders)
8. Other co-ordinated activities (*e.g.*, relationship with outsiders, common or co-ordinated propaganda, agreements with producers of substitutes, exchange of trade information, conciliation and arbitration of disputes)

The structure of international cartels is significantly influenced by legal regulations of national governments; i.e., these structures are either adjusted to comply with or to avoid legal regulations.¹ Why the rather insignificant country of Liechtenstein was the seat of an important company administering patents for hydrogenation, or why Luxembourg was the headquarters of the Continental Steel Entente, why the International Lamp Cartel chose Geneva as its domicile, can be answered only by stating that probably the legislative and administrative setup of these small countries was best suited to house the executive agencies of those cartels. In administration, many international cartels have relied upon a peculiar legal pragmatism. For example, cartel quotas have often been transferred, exchanged, and sold. No one involved has cared whether positive law recognized a "cartel quota" as a "thing" which might be subject to property rights and therefore transferrable.

¹ Mr. S. M. Bash testified before the TNEC (see *Hearings*, Part 20, p. 10933) that the Steel Export Association of America incorporated in all of its international agreements what, in effect, is a paraphrase of Section 2 of the Webb-Pomerene Act. Clause 1-D of the Agreement of the International Rail Makers' Association of Aug. 1, 1937, containing such a paraphrase, may be regarded as an example. This clause reads as follows: "It is understood that the Steel Export Association of America (hereinafter referred to as the American group) is an association constituted under an Act of Congress of the United States of America approved Apr. 10, 1918, and entitled, 'An Act to Promote Export Trade and For Other Purposes,' commonly known as the Export Trade Act. As used in this paragraph the term 'United States' shall have the meaning given in the Export Trade Act. Materials sold in the United States other than for export and sold for export to the United States shall not be covered by this agreement, and this agreement shall not be construed as in any way referring to trade in materials so sold and shall not be allowed directly or indirectly to restrain trade within the United States or the export trade of any domestic competitor of the American group or to enhance or depress prices of such material or to lessen competition therein within the United States."

Most of the collective marketing controls have not been in themselves organizations endowed with personality by national laws. However, they frequently have established administrative agencies or policy-determining committees whose personality status would require extensive clarification. These administrative agencies and committees operated sometimes without a fixed domicile, without permanent executive officers, and without possessing tangible or intangible property. Others used more permanent organizational patterns. Any classification of such agencies and committees would have to take into account the fact that national legal systems may arbitrarily determine under what conditions agencies are to be considered "right- and duty-bearing" (legal) units. Furthermore, the recognition of a social organization as a legal unit may carry different consequences in various legal systems. From the point of view of most national legal systems, the legal status of an organization, although involved, is not difficult to ascertain. However, in this study, the question must be considered principally from an international point of view. There is no answer in what is called international private law to the question what elements constitute international "personality" status. Within the hazy structure of international private (and public) law the section concerning private international economic entities and their personality status has been particularly dark and undeveloped.² Many people regarded certain large international cartels, as for example the International Steel Cartel, as an "itinerant international association." The legal status of itinerant international associations has been considered in the literature of international law, but only in regard to

² A very brief but comprehensive survey of modern international cartel law is contained in Friedländer, *Kartelle*, pp. 307 ff. No pertinent material on this topic can be found in the usual textbooks on private international law. See e.g., G. E. Cheshire, *Private International Law* (Oxford, 1935), *passim*. The League of Nations devoted a special study to a *Review of the Legal Aspects of Industrial Agreements* (Geneva, 1930), prepared by Henri Decugis (France), Robert Olds (United States), and Siegfried Tschierschky (Germany). "Private international law has only recently dealt with these problems," wrote the authors, "and the conclusion has been reached that the question is one of such difficulty that certain of the problems raised appear almost insoluble." (P. 18.) Legal forms assumed by cartels are viewed on the basis of national legal systems. "These international contractual organizations represent simply a grouping of interests, and do not generally possess individual juridical personality. They are not . . . associations or companies capable of possessing personal property or of concluding contracts with third parties, since the members of these cartels have not as yet renounced in favour of a joint body their right to sell or purchase direct. Such cartels, however, constitute as between their members, unions or corporate groups, which can hardly operate in any permanent sense without fairly strict discipline and an internal administrative organization to direct their activities and enforce the clauses of the contract as against members of the cartels."—(pp. 6-7.)

so-called nonprofit organizations.³ Although certain administrative agencies of cartels may be called nonprofit associations, their ultimate purpose is to increase the profits of their member units. The consideration of nonprofit entities in international law has not resulted in very conclusive definitions of personality status. Concepts of international private associations in international law imply both the existence of a definite domicile⁴ for the association and its recognition by at least one national legal system as a legal unit, which thus has "a standing in the courts."⁵ This conception corresponds to the traditional doctrine that, in principle, only states have full status in international law, while private persons (physical and artificial) can be subject to obligation only by mediation of states. Many cartel agencies have influenced the world export market of a commodity or process without a corporate charter from, or any other legal recognition by, any politically established public authority.

All international bureaux and all commissions for the regulation

³ Cf. André Normandin, *Du Statut Juridique des Associations Internationales* (Paris, 1926), p. 57. A Belgian statute (*Moniteur Belge*, November 5, 1919, pp. 5872-74) regulates the "civil status" of international associations pursuing scientific objectives. The *Institut de Droit International* adopted a proposal of international associations "in order to enhance the development of international associations which do not pursue profit-making objectives." (Both the Belgian law and the proposal of the convention of 1912 are published as appendices in Normandin, *op. cit.*, pp. 191-95, 199-217.) The League of Nations periodically published a *Handbook of International Organizations* and a (quarterly) *Bulletin of Information on the Work of International Organizations*, including lists of international trade associations of industries in them. No attempt was made to include lists of international commodity controls. The Introduction to the *Handbook* of 1937 states that "The *Handbook* ignores international organizations which are run solely for profit. . . ."

⁴ International private law distinguishes between nationality and domicile of legal entities. A dual civil domicile is "impossible." See Cheshire, *op. cit.*, p. 131. See also Barbosa de Magalhaes, "La doctrine du Domicile," *Recueil des Cours, Académie de Droit International*, III (1928), *passim*.

⁵ "Personality is the capacity to enjoy legal rights and to have a standing in the courts."—Joseph H. Beale, *A Treatise on the Conflict of Laws* (New York, 1935), II, 652. Frederic Hallis, *Corporate Personality* (London, 1930), p. 242, writes: "The existence of a corporate person will not be the result of a creative act of the state. It will have its foundation in social fact and its origin in the initiative of its living members." However, in the next paragraph he limits this statement somewhat by expounding: "In order that an organization of individuals may have legal personality, that is, be a legal right- and duty-bearing unit, it must have a directing idea, a definite aim which gives it a '*local habitation* and a name.'" [My italics.] The concept of corporations as defined by Chief Justice John Marshall is highly significant for the problem under discussion. "A Corporation is an artificial being, invisible, intangible, and existing only in contemplation of law. Being a mere creature of law, it possesses only those properties which the charter of its creation confers upon it, either expressly or as incidental to its very existence."—*Dartmouth College v. Woodward*, 4 Wheat. 518, 636, [1819]. See also Alexander Nkaim, *The Personality Conception of the Legal Entity* (Cambridge, 1938), *passim*.

of matters of international interest, established after the Covenant of the League of Nations went into effect, were compulsorily placed under the direction of the League in Article 24 of the Covenant. Although the definition of "international bureaux" was not clarified in the Covenant, it might be assumed that large international cartels and their agencies were not excluded from it and that the activity of such organizations was a matter of "international interest." However, the article was interpreted by the League Council and by students of international law as applying only to those international organizations which were created by collective diplomatic convention.⁶ It is interesting to note that in practice even the intergovernmental commodity controls based on diplomatic agreements (e.g., rubber, tin) were not considered as subjects of supervision by the League. Thus the restricted interpretation of the Covenant article excluded private international organizations of public interest from international public supervision, although the text of the Covenant does not seem to have warranted their exclusion. This is not to say that "direction" by the League could have resulted in the actual determination of the price policy of large international cartels. Yet the authority of the League (the French text speaks of *seront placé sous l'autorité de la Société*) might have resulted in much-needed public supervision of large international commodity controls, and in measures necessary to adjust cartel policies to international public interest. For this to have occurred, it would, of course, have been necessary to have a politically efficient League, one that could have agreed on and found methods of maintaining international public interest.⁷

Though many international cartels did not regard themselves as subject to any single government, they were at least tolerated by those national governments which did not object to having their national cartels join the international cartel or which permitted operations of

⁶ See e.g., Jean Ray, *Commentaire de Pacte de la Société des Nations* (Paris, 1930), pp. 667 ff. Mr. Ray quotes on page 670 the resolution of the Council of the League (1921) concerning the restriction of the application of the article to "international economic organisations which are concerned with general economics and created by collective diplomatic conventions." He further quotes the resolution of the Council of 1928, according to which this provision relates to "official" organizations only, and not to private institutions. The extent of authority conferred upon the League in placing international bureaux under its direction is discussed on pp. 671 ff. See also the four supplements to Ray's work, Paris, 1931-1935. The marked discrepancy between the English and French version of the covenant article has often been discussed in literature of international law. See Hans Kelsen, *Legal Technique in International Law* (Geneva, 1939), pp. 170 ff.

⁷ This directing power might have been used to support international economic sanctions by a politically strong League.

international cartels in their territory. Many international cartels created and enforced business rules embracing important marketing regulations, leaving it to participants to adjust their conduct to their respective national legal rules.⁸ It may be stated, though not without reservations, that those international organizations and agencies which have had a distinct domicile have been subject to legal regulations of the country of their domicile. Thus the International Rail Makers' Association, with headquarters in London, and the International Wire Export Company in Brussels were constituted according to legal forms and performed their local activities according to the legal regulations of England and Belgium, respectively.

It is highly improbable that problems involving the status of international cartels may be solved by international law as it exists today. Thus those international cartel agencies which have no domicile, although they have an external organization, may get along as *de facto* entities in a legal vacuum, resembling somewhat people whose citizenship is not recognized by any state, but who can nevertheless be sentenced if and when a national court determines facts establishing its jurisdiction.

Most of the private marketing controls which survived the Great Crisis changed their organizational framework. This was especially the case with the steel cartels. Many new international cartels were established after the Great Crisis, though this author would not like to join without many qualifications those who regard depression as a primary motivating force of marketing unions of entrepreneurs. Professor J. W. F. Rowe judged that the sudden and drastic fall in the prices of most primary products "caused the virtual breakdown of almost all the existing control schemes, and for a short time in the spring of 1930 it looked as if the individualistic *laissez-faire* system would be restored."⁹

2

The student of the constitution of cartels is confronted with problems similar to those of the student who seeks definite information

⁸ Dr. Heinrich Friedländer, in discussing the position of international cartels in international private law, indicates that basic principles are gradually developing for an "international law of particular industries," embracing the regulation of business conditions, marketing orders for jobbers, consumers, and so on. He quotes the international steel market as an example.—(*Kartelle*, p. 309.) Such regulations may be effective and may even be enforced; however, calling them "legal" would require further elucidation, going to the very roots of what is called "law" and "legal."

⁹ *Markets and Men* (Cambridge [England], 1936), p. 18. (Hereafter cited Rowe, *Markets*.)

on the Constitution of the British Commonwealth of Nations. Most cartel members did not intend to formulate and record the cartel's structural plans, policies, and procedures. Many national groups have been loath to commit themselves to comprehensive written rules. Whereas European national cartels and American Webb-Pomerene Associations were based on fairly explicit comprehensive documents, the international ties of these groups were frequently formulated in brief, rather fragmentary documents and founded on hazy records and oral conventions. That is why many have called a cartel constitution an arcanum. One of the great cartel practitioners, Aloys Meyer, wrote that the "ideal entente" would have no written regulations at all. It should be governed "by a charter setting up the general principles of the agreement."¹⁰ Students of the international copper, steel, nitrogen, dye, and other cartels wonder how export markets could have been controlled by such simple and ostensibly weak machines. The seeming mystery of how such a machine could work smoothly without a large co-ordinating bureaucracy is readily solved by the knowledge that the executives of the large member groups directed the main cartel activities. Minor conflicts were avoided because the participants knew that in an international organization stubborn opposition in minor controversies may disrupt easily the whole structure. For this reason a regime of arbitration and a system of money deposits rarely operated, even in those instances where they were formally established. Juristic thinking and strict procedure, which would have made cartel operations intricate and would have resulted in a bureaucratic machine with red tape, were almost unknown to international cartels. The International Steel Cartel's central business agency in Luxembourg was administered in a few rooms by less than a score of officials. The jurisdiction of cartel agencies was not precisely determined and there was no doctrine of separation of powers, nor a system of checks and balances, to impede the speed of operations and decisions.

Cartel documents frequently did not express exactly the specific cartel purposes. Thus, the International Wire Export Company in Brussels was in its organizational structure a co-operative society, according to Belgian law, which sold, for export, drawn wire and wire products originating in its "member countries." Though there was no secret about the purposes of this co-operative society, its specific cartel purpose was not stated in the by-laws.¹¹ The International

¹⁰ "Cartels and Trade Fluctuations," *World Trade*, IV, No. 6, 62-63.

¹¹ Cf. Hexner, *Steel Cartel*, p. 156.

Hydrogenation Patents Company, Limited, an incorporated joint stock company of Liechtenstein and Holland, was organized as a mere commercial company selling patent rights, although in reality it was a cartel mechanism. This is not to say that these cartel agencies intended by their external appearance to deceive experts and laymen. Legal development has not created specific patterns for cartel organizations; cartel mechanisms were willy-nilly squeezed into the general institutional framework of common commercial intercourse. In the process of time there developed sometimes an institutional inertia which resulted in maintaining certain patterns even though they did not serve their purpose very well.

The difficulties in classifying cartel structures (and in designating them as cartels) may be shown by a few samples of business arrangements: (1) Mr. A., producer of pharmaceutical products in Mexico, indicates in a friendly discussion with Mr. B., producer of pharmaceutical products in Argentina, that he will remain in the next ten years disinterested in the market of Chile as long as Mr. B. remains disinterested in the market of Uruguay. Mr. B. does not make any statement in this connection, but avoids the market of Uruguay. (2) Mr. M., owner of a plant producing a special-sized product sold on the international market, indicates to Mr. S., owner of a plant which could (but does not actually) produce that special size, that he would appreciate it if Mr. S. would not extend his production to the size in which Mr. M. specializes. He (Mr. M.) refers to his conservative policy of not engaging in production of other material. Mr. S. does not reply, because he never intended to produce the size mentioned by Mr. M.; however, he enjoys the advantage of being safe from Mr. M.'s competition. Innumerable examples occurring daily in practical life could be cited. The great influence of these very pervasive "cartel structures" upon international trade cannot be estimated.

In principle, there is no difference between the organizational structure of domestic and international cartels. In actual practice the patterns of domestic and international cartels overlap. Whereas national marketing controls of private entrepreneurs have been adjusted to their respective legal regulations and administrative practices, international cartels have been much freer in this respect. The facts that the reconciliation of interests has been more complex on the international level, that larger territories have been regulated, and that no national loyalties have been involved are reflected in the mechanism of international cartels. However, international cartels have often borrowed useful patterns from national cartellization.

Among domestic cartel patterns exercising great influence upon international cartels, American export associations have been significant.¹² The Act to Promote Export Trade of 1918 (Webb-Pomerene Act) made it possible for American exporters to operate collectively in international markets. Associations of exporters engaged solely in export trade are exempted from the provisions of the Antitrust Acts provided that any such association is not acting in restraint of trade within the United States, that it does not exercise restraint upon any domestic competitor of such association, and that the association does not act to enhance or depress, intentionally or artificially, prices within the United States, or to lessen competition within the United States. According to Mr. Wendell Berge, "The Webb Act was intended to strengthen American competition against foreign cartels. It was enacted by Congress in the belief that it would provide a means of assistance to American business in combating the power of foreign cartels dominating world markets."¹³ For many years the Webb-Pomerene Act has been interpreted to mean that the members of Webb-associations may use their association to co-ordinate their export policies, although the members transact export business individually. In addition, it has been assumed, though not without opposition, that associations of American exporters may, as national groups, join international cartels. The interpretations that American export associations may join international cartels was reinforced by an opinion of the Federal Trade Commission, the agency exercising supervision over such associations, to the effect that "there seems to be no reason why a Webb-Pomerene association composed of nationals or residents of the United States, and actually exporting from the United States, might not adopt a trade arrangement with non-nationals reaching the same market providing this market was not the domestic market of the United States and the action of this organization did not reflect unlawfully upon domestic conditions."¹⁴ According to TNEC *Monograph No. 21*, "Many American export associations subsequently accepted this open invitation to participate in international cartels."¹⁵ There is one published report about an

¹² See *Monograph No. 6* of the TNEC. This *Monograph* contains a detailed report of the Federal Trade Commission on how the Webb-Pomerene Act operates. See also Sidney A. Diamond, "The Webb-Pomerene Act and Export Trade Associations," *Columbia Law Review*, November, 1944, pp. 815 ff.

¹³ Wendell Berge, *Cartels*, p. 192.

¹⁴ Press release of the Federal Trade Commission of August 6, 1924, reprinted in TNEC, *Monograph No. 6*, p. 127.

¹⁵ P. 221.

apparently isolated case in which non-United States producers joined a Webb-association.¹⁶

There has been some doubt as to whether the operation of United States export cartels might not involve tacit combination on the domestic market. Questions also have been raised regarding the effectiveness of guarantees in the Webb Act to protect American outside exporters.¹⁷

The principle objection against American export cartels, however, has been that they have used the Webb Act to justify their joining international cartels. In the spring of 1944, the Department of Justice filed a civil suit charging two American Webb-associations, their members, a British corporation and its American agent, with maintaining international cartel connections to restrain trade in the production and marketing of alkalis. The Assistant Attorney General, Mr. Wendell Berge, commented on the suit as follows:

The present suit is of major importance in the drive by the Antitrust Division to eliminate the effect of cartels on American commerce. This is the first suit which the Division has filed involving the activities of associations organized under the Webb Export Act. That statute was passed by Congress to form associations to compete with foreign manufacturers. We do not, of course, intend to interfere with any of the legitimate activities of such export associations, but many groups in this country are planning to utilize such associations to enter into cartel agreements with foreign companies, stifling competition throughout the world, activities which are not exempted by the Webb Act from the operation of the Sherman Act.¹⁸

In addition, the Federal Trade Commission started, in the summer of 1944, an investigation of the international cartel connections and other practices of the Webb-associations of phosphate, carbon black, and electric apparatus.¹⁹

¹⁶ *Wall Street Journal*, October 12, 1926, quoted in TNEC, *Hearings*, Part 25, p. 13170. The Federal Trade Commission declared the joining of nonresidents illegal. TNEC, *Monograph No. 6*, p. 127.

¹⁷ TNEC, *Hearings*, Part 20, p. 10965. The representative of the Treasury Department, Mr. Joseph J. O'Connell, remarked in this connection (p. 10960): "It isn't a question of what would be reasonable for you to do, but what you are permitted to do under the law." And Mr. A. H. Feller, Special Assistant to the Attorney-General said (p. 10963): "... therefore the question here is if the provisions of the Webb-Pomerene Act, to the effect that the export business of the outsiders should not be restricted, is to be adhered to, whether it is possible to have an export association at all in this situation." Outright repeal of the Webb-Pomerene Act is proposed by *Fortune*, September, 1942, p. 152.

¹⁸ Press Release of the Department of Justice, March 16, 1944.

¹⁹ Cf. *Business Action*, published by the U. S. Chamber of Commerce, November 13, 1944, p. 8. According to the *New York Times* Financial Section, March 11, 1945, p. 4, the Federal Trade Commission has instituted investigations against most of the fifty Webb Associations now on file with it.

The National Foreign Trade Convention, in the fall of 1944, expressed great concern about this new turn of events. It contended that doubts as to the interpretation of the Webb Law, "accentuated by unprecedented claims made in pending litigation, impair its effectiveness." According to this Convention, "Our foreign economic policy must be given full consideration in determining the reasonableness of participation by Americans in international business agreements."²⁰

Naturally, how American antitrust legislation develops and how it is interpreted by courts and executive agencies will be of capital importance for the future existence and structure of world cartels. Up to the Second World War the very comprehensive and severe provisions of the antitrust acts were interpreted (especially in international trade relations) in the light of (a) the traditional interpretation of the Webb-Pomerene Act, (b) "the rule of reason" as a guiding principle in interpreting the Sherman Act, and (c) traditional administrative discretion whether and how to prosecute combinations.²¹ The "rule of reason" as an interpretative guide seems to have been reversed by the new antitrust decisions of the United States Supreme Court. According to the recent *U. S. vs. Socony-Vacuum Oil Company* decision,²² cartel agreements which restrain trade are unlawful whether or not they are justified by the "rule of reason." The decision emphasizes that it is the responsibility of Congress and not of the Supreme Court to limit the comprehensive restrictions of the Sherman Act. The Supreme Court regarded it as immaterial whether officers of the Federal Government knew of or acquiesced in the co-operative practices of entrepreneurs. Many large American corporations and groups during the Second World War signed "consent decrees" enjoining them permanently from co-operating with foreign groups on international

²⁰ *Final Declaration of the Thirty-First National Foreign Trade Convention*, October 9, 10, and 11, 1944 (Pamphlet), p. 9. The National Foreign Trade Council published in September, 1944, a detailed *Memorandum on Regulatory Measures Affecting American Foreign Trade*. This document discussed also cartel problems.

²¹ According to Section 4 of the Sherman Act, "it shall be the duty of the several district attorneys of the United States, in their respective districts, under the direction of the Attorney-General, to institute proceedings in equity to prevent and restrain such violations." Naturally, the specific character of these disputes makes their prosecution dependent upon sufficient equipment of the Justice Department, and this is ultimately a problem of adequate appropriations. However, one may ask whether, granted adequate equipment, and granted a clear case, the Justice Department may choose according to its discretion to institute or not to institute legal proceedings. The prevailing opinion of jurists would probably be that the directing power of the Justice Department implies such discretion.

²² *U. S. vs. Socony Vacuum Oil Company*, 310 U. S. 150, 60 Sup. Ct. 811 (1941). See also *Ethyl Gasoline Corp. vs. U. S.*, 309 U. S. 436, 60 Sup. Ct. 618 (1941).

markets. These decrees already signed and others yet to be signed will specifically prevent these corporations from co-operating in international cartels; whether or not they will induce them actively to compete remains to be seen.

Brief descriptions of cartel structures frequently indulge in oversimplification and in delineation of functions of cartel agencies more rigid or more flexible than is warranted by actual evidence. Many of these organizations have grown gradually, and not as the result of conscious planning. The patterns often occurred simply from following the line of least resistance. It is vain to seek in them for logical consistency or distinct jurisdictional spheres customary in big organizations. Naturally, the organizational framework of cartels has differed greatly according to the task they were expected to perform. Thus certain chemical cartels, based on patents and the exchange of technological experience, have had a completely different structure from the selling syndicates of magnesite, linoleum, or steel. The case studies attached to this volume show these different patterns.

3

Participants in large international cartels have been either full-fledged members, partaking in all policy-determining functions, or "adherents" according to special agreements, with limited rights and duties. Those participants that were large integrated companies generally pledged themselves to assume all the obligations of their fully or partly controlled subsidiaries. One such provision from an agreement reads as follows: "Subsidiaries shall mean every company, no matter in what country organized, in which the company of which it shall be a subsidiary directly or indirectly shall have at the time in question the power to exercise control, either by ownership or control of a majority of the stock having the right to vote for the election of directors or by management agreement."²³

Private entrepreneurs entering international cartels were frequently organized in national cartels. The national cartel represented them in the international cartel. Within large cartels European Continental groups had sometimes a unified structure of their own with which the British and American groups negotiated as independent entities.²⁴

²³ Cf. Bone Committee, *Patent Hearings*, Part 7, p. 3760.

²⁴ The isolated position of Great Britain in the International Steel Cartel was emphasized in *The Times* (London), by the statement: "... the British steel industry is not a member of the International Steel Cartel, but has signed the agreement as one industrial body to another, thus forming a dominant organization over the head of the Cartel itself." (Iron and Steel Number, June 14, 1938, p. 5.) *The Times* ob-

Inside and outside Continental Europe, neighbouring countries were often connected by cartel arrangements referred to as "regional" cartels.

Several cartels consisted of a basic organization and of an extensive network of accessory mechanisms supporting the basic structure. These auxiliary institutions might be international distributors' cartels or local cartels of domestic producers, selling, statistical, and research agencies, and so forth.

Those international cartels which covered several interconnected commodities were built upon a complicated structure of national groups and special commodity cartels. The entrepreneur might be connected with the central organization through the national group and separate commodity cartels. The International Steel Cartel is a good example of that pattern. Its organizational scheme is included in Appendix II of this volume.

National and international trade associations have also played a role in the development and administration of international cartels. In the international copper and lead cartels, for instance, an American trade association functioned as a statistical agency. In tea, tin, rubber, quinine, sugar, etc., private national and international trade associations formed the skeleton on which the official marketing schemes were built. In superphosphate and railroad cars, international trade associations were the executive agencies of cartels. A somewhat similar structure developed in shipping conferences. In diamonds, an international trade association was the connecting link among cartel agencies. The membership of these trade associations was limited to cartel adherents. The functions of European Continental trade associations differed from those in English-speaking countries. These activities are discussed somewhat in detail in the case studies.

4

The substance of the cartel relationship, i.e., which of the entrepreneurial activities were co-ordinated, varies from cartel to cartel. International private regulations restricting the domestic business transactions of a producer were gradually abandoned unless technological or patent interests required such measures. This is not to say that provisions for foreign sales territories, home market protection, patent exchange, and so forth, did not exercise influence upon domestic em-

viously called the European Continental steel entente the "International Steel Cartel," and called what this study refers to as the International Steel Cartel a "dominant organization." The independent position of Americans, claiming to be an entity "operating as a unit similar to Europe," is mentioned in the *Hearings* of the TNEC, Part 20, p. 10935.

ployment and prices of cartel members. However, producers became more and more cautious in entering into agreements with foreign producers as to quantities produced and sold on the domestic market and with reference to domestic trade terms. A single crucial precedent, the disintegration of the first international steel agreement of 1926, exercised great influence upon this development. It was well known, and well publicized, that one of the main reasons why the "old" steel cartel did not work satisfactorily was that it embraced the regulation of both domestic and export markets. Later steel agreements limited their scope to the foreign trade of their members.

A recent type of cartel agreement, developed principally after 1925, is based on the technological aspects of the production process.²⁵ This type of agreement aroused in the United States, especially after 1938, the greatest opposition. It usually involved chemical industries in the broadest sense and certain mineral industries. Significantly, international steel marketing controls were not based on patents or secret technological knowledge. Viscount Greenwood, who had an important role in the British steel industry, characterized this situation as follows: "Our industry is more than national, it is supremely international. No industry in the world pools its knowledge and its friendships more regularly than the steel industry."²⁶ And the chairman of the German national steel cartel, Dr. Ernst Poensgen, emphasized, "We have visited each others' works, and been shown their progress, and if at any time there was in our family a naughty boy who would prefer to keep something in the dark because he believed himself to be cleverer than his brothers, the latter have soon shown him that they could also do it and make it still better than he."²⁷ Even though these emphatic statements of technological friendship may be taken with a grain of salt, it should be noted that the forms of marketing controls in national and international steel industries were not influenced by the necessity of artificially pooling patents and technological experiences to the same extent as in certain chemical industries. As a matter of fact, in the last two decades tremendous technological improvement has occurred in the steel industry. Neither national nor

²⁵ According to Mr. Wendell Berge, "In every cartel arrangement which has come to the attention of the Antitrust Division of the Department of Justice technology has been a vital factor."—*Cartels*, p. 35.

²⁶ *Journal of the Iron and Steel Institute*, CXXXV (1939), p. 30P. There is little doubt that Lord Greenwood meant an unrestricted exchange of knowledge and technical experience in contrast with such pooling, which is restricted to a closed group and accompanied by the exclusion of nonmembers of the group.

²⁷ *Ibid.*, p. 34P.

international cartel ties slowed up this development. The International Steel Cartel did not regulate capacity. It was not concerned with limiting potential production. But even in those national cartels where enlargement of steel plants has been subject to domestic cartel restrictions, these provisions have not hampered the introduction of improved processing methods. The relatively slow introduction of continuous strip mills in Europe was mainly due to lack of capital and to the fear of European steelmakers that large quantities of steel sheets would not be absorbed by the market.²⁸ No accusations have ever been made against international steel industries of wanton abuse of patents or processing secrets.

Before the First World War patent licenses were rarely used as the controlling device in international cartels. The international carbide cartel, established in 1910, and founded on patents, was an exception.²⁹ The first book dealing with patent problems and cartels was written in 1923 by Hermann Isay. He tried "to show how patents in the form of patent-associations [*Patentgemeinschaft*] may serve cartel purposes."³⁰ Mr. Isay described the resistance of German manufacturers to cartellization before the First World War, and drew the following conclusion: "The resistance to cartellization which transcends mere understandings on prices and trade terms is as strong in the manufacturing industries at present as it was before. However, no other industries [meaning those producing raw and semifinished material] have at their disposal for cartellizing purposes as effective a device as the manufacturing industries have. *This auxiliary device is the patent.*"³¹ For several years it remained doubtful in Germany whether monopolies based only on patents were also subject to specific cartel regulations. In connection with an issue arising from the licensing of radio appliances the German Cartel Court decided that cartels

²⁸ The fixing of prices on the material made by the patented continuous mill process was in reasonable limits and had nothing to do with ISC regulations. See TNEC, *Hearings*, Part 19, pp. 10391 ff. Certain patents for the production of special construction steel and special alloy steel were rather exceptional and did not touch on ISC policies. See e.g., TNEC, *Hearings*, Part 19, p. 10500. Several of the large American steel companies were indicted on November 15, 1944, by the Federal Grand Jury in Trenton. It was charged that they conspired in fixing and maintaining uniform prices and trade terms in stainless steel. Though a connection existed with reference to a former Krupp patent, this combination had nothing to do with the International Steel Cartel. See Press Release of the Department of Justice, January 19, 1945.

²⁹ Cf. Friedländer, *Kartelle*, pp. 31 and 185.

³⁰ Dr. Hermann Isay, *Die Patentgemeinschaft im Dienst des Kartellgedankens* (Mannheim [Germany], 1923), p. 7.

³¹ *Ibid.*

may be founded on patent licenses.³² This type of agreement never played a conspicuous role in German domestic cartels.

There is an obvious reason why patents were cherished as a framework for private market controls. In addition to corporate controls and trademarks, patents were the only tie "legitimate" all over the world which could be used to bind entrepreneurs in marketing controls. As Mr. Justice Rutledge put it in his dissent in *Hartford-Empire Company et al. vs. United States* (1945): "In a machine age, dominated so widely by patents, the effect can be no other than largely to nullify the anti-trust laws." The facts that public opinion did not attach to a patent monopoly the same emotional coloring as to many other monopolistic features and that the system of patents was recognized everywhere accounted for the use of this device. Naturally, simple licensing agreements, even if they conferred exclusive licenses were not regarded by most people as cartels in the traditional sense. However, exchange of secret technological information, trade-marks, and patent licensing (one-sided and mutual) may be, and have been, often used as the fundamental structure of international marketing controls. The reader of the case studies in this volume will find many examples of such control mechanisms (sulfur, aluminum, glass containers, hydrogenation, synthetic rubber, pharmaceuticals, beryllium, dyes, photographic materials, electric cables, electric lamps, hard metal composition, radio equipment, etc.). Many of these marketing controls did not violate public interest, and others have served public interest positively. The unbiased reader of the Reports of the TNEC, the Bone, Kilgore, and Truman Committees of the American Congress, however, will quickly recognize that in several cases industrial agreements of this type introduced socially undesirable features into national and international industrial development.³³ There is no doubt whatsoever that the German General Staff influenced German entrepreneurs to use political penetration methods in several agreements of this kind.

In patent problems as in other cartel problems the reader must distinguish between pure legalistic issues and economic problems of a substantial nature. From the point of view of international trade, distinction should be made between features which are *mala per se* (bad in themselves) and *mala quia prohibita* (bad because legally prohibited). The cartel discussions in the TNEC³⁴ and in the Bone, Kilgore,

³² Cf. Telefunken cases, in Dr. Hans Klinger, *Die Rechtsprechung des Kartellgerichts* (Berlin, 1931-1937), II, 29; and III, 7.

³³ For a reasoned criticism of this view see George E. Folk, *Patents and Industrial Progress* (New York, 1942), *passim*.

³⁴ See especially *Hearings*, Part 2.

and Truman Committees pertained both to legal issues and to the problem of sound economic policy. Sometimes it was not made quite clear which of the two interconnected aspects was considered more important.

It seems that American law permits (from the point of view of patent laws) licensing of patents even if accompanied by restrictions both on quantity produced and on sales territories. According to the Supreme Court of the United States: "The patent law confers on the patentee a limited monopoly, the right or power to exclude all others from manufacturing, using, or selling his invention. . . . He may grant licenses to make, use, or vend, restricted in point of space or time, or with any other restriction upon the exercise of the granted privilege, save only, that by attaching a condition to his license, he may not enlarge his monopoly and thus acquire some other which the statute and the patent together did not give."³⁵

Several fundamental issues on combinations of the patent license type were discussed in the decision of the United States Supreme Court dated January 8, 1945, in the case *Hartford-Empire Co., et al. vs. U. S.*, reaffirming the principle quoted from the Ethyl Gasoline case. Three justices did not take part in the case, and two filed dissenting opinions. Although the case related to a domestic combination, the decision is significant for international combinations as well. A few sentences of the decision are reprinted here.

That a patent is a property, protected against appropriation both by individuals and by government, has long been settled. In recognition of this quality of a patent the courts, in enjoining violations of the Sherman Act arising from the use of patent licenses, agreements, and leases have abstained from action which amounted to a forfeiture of the patents.

. . . so long as the patent owner is using his patent in violation of the antitrust laws, he cannot restrain infringement of it by others.

Repeatedly since 1908 legislation has been proposed in Congress to give the courts power to cancel a patent which has been used as an instrument to violate antitrust laws. Congress has not adopted such legislation.

Congress was asked as early as 1877, and frequently since, to adopt a system of compulsory licensing of patents. It has failed to enact these proposals into law. It has also rejected the proposal that a patentee found guilty of violation of the antitrust laws should be compelled, as a penalty, to license all his future inventions at reasonable royalties. The Temporary National Economic Committee recommended adoption of such a system, but Congress took no action to that end.

³⁵ *Ethyl Gasoline Corporation vs. United States* (1941).

The British legal development in reaction to complaints⁸⁰ about restrictive practices based on patent licenses, particularly when owned by foreigners, took a different turn from that in the United States. Between 1883 and 1919, several amendments to the patent laws were enacted. They provided for revocation of a British patent if the invention was manufactured mainly abroad, or as an alternative to revocation, the grant of compulsory licenses to others. This procedure, however, has been invoked in only a few cases, although the presence of such a provision may have been a real deterrent.

It is not possible in this volume to discuss in detail to what extent patents, and trade-marks, and secret technological processes may serve as a front for other types of monopolistic structures. As a matter of fact, they have been recently brought to the forefront through extensive public and private investigation. Many of the abuses unearthed in these investigations can easily be eliminated by the action of socially responsible entrepreneurs and by intelligent public policies. Others will disappear as soon as political security makes it unnecessary to cloak political warfare in industrial agreements.

There will remain certain controversial points which may be illustrated by one example. Suppose a Greek entrepreneur invents a new material for polishing shoes, and patents the process all over the world. He would like to establish a large export industry which would give employment to ten thousand Greeks, use domestic raw material not otherwise needed, and reinforce the balance of payments of Greece with badly needed foreign exchange. A Canadian industrialist is desirous of taking out a patent license for the production of the unique shoe polish because its import to Canada is barred by high custom duties. The Greek entrepreneur would be inclined to grant a license to the Canadian if he could be restricted to production for the Canadian market alone. The Greek himself wants to supply the markets of the United States, South America, and elsewhere. Many examples of similar business situations could be cited. The question arises, is such a restriction of production undesirable? This question can be

⁸⁰ Lloyd George, introducing in 1907 an amendment to the Patent law, said: "Out of 14,700 patents issued last year 6,500 are foreign. I do not object to that, but a good many of these patents have been taken out not for the purpose of working the patents in this country, but for the purpose of preventing their being better worked. That I consider to be an abuse of a privilege conceded by British law. . . . Big foreign syndicates have one very effective way of destroying British industry. They first of all apply for patents on a very considerable scale. They suggest every possible combination, for instance, in chemicals, which human ingenuity can possibly think of. . . ." TNEC, *Hearings*, Part 3, p. 1024.

answered only by national governments. A national government may protect patents with the condition that licensing must not be restricted as to quality, quantity, and export sales. A government may prohibit its subjects from making licensing agreements based on secret technological processes, patents, and trademarks which are hemmed in by restrictions. That such restrictions are obstacles in the international division of labor is unquestioned.

Several authors have suggested that, in order to free international trade from artificial restrictions of a technological character, the present protection afforded inventions should be removed or modified. Professor W. H. Hutt went so far as to suggest that inventions and the results of many years of private technological experience should be made publicly available without any compensation to the inventor.⁸⁷ It appears improbable that the principal industrial nations will adopt such a course. Professor Lionel Robbins has proposed sweeping away monopolistic practices based on the present patent system. According to him, it "is a highly artificial creation emerging from a process of legislation in which the role of pressure groups and muddled thinking has been unfortunately only too prominent. . . ." Mr. Robbins wants to substitute for the present system a "license of right" system "whereby after a short period, anyone might use a patent on paying a license fee to the inventor. . . ."⁸⁸ This author agrees in principle with the view expressed by Mr. Robbins. International agreements setting up uniform legislation on patent restrictions would be highly desirable.

Cartel agreements frequently contain certain provisions regulating the quantity and quality of production (supply), the direction of trade (markets), and the determination of trade terms (prices in the broadest sense). The regulation of what is to be produced or exported, and the allocation of markets and customers influence also, of course, trade terms. Many large market controls involving raw materials have influenced the market through the regulation of supplies only (e.g., tea, tin, rubber). This form of regulation has not always proved sufficiently effective. The Rubber Regulations Committee writes the following on this point: "But it would be disingenuous to conceal the fact that the practical policy of concentrating on stocks and leaving price to find its own level does not solve one of the main difficulties confronting the controllers of such a commodity as rubber—the long-

⁸⁷ Cf. W. H. Hutt, "The Sanctions for Privacy Under Private Enterprise," *Economica*, 1942, pp. 241 ff.

⁸⁸ Robbins, *The Economic Basis of Class Conflict*, pp. 74-75.

run adjustment of supply to demand."³⁹ Sometimes the provisions regulating supplies are formulated in very general terms because at the time when the agreement is made the parties do not know what the demand will be, how strongly outsiders will compete, and how prices will be influenced by uncontrollable forces. These terms are put into effect by agencies with broad jurisdictions.

Many cartel agreements are based on determined marketing shares of participants. These shares may be the result of free bargaining or they may be related to an agreed-upon standard, as exemplified below. A preceding year may be chosen as "reference period." In such case, differences of opinion may arise about the year which is to serve as reference period. For instance, when the United States steel producers entered the International Steel Cartel they were offered the same reference period, 1934, which was used in determining the quotas of European exporters. Because the United States exported relatively little in 1934, Americans insisted that 1936 should be the reference period.⁴⁰

When cartel agreements were renewed, the quotas of those who did not exhaust them (e.g., because market prices were too low) were frequently decreased. One of the principal reasons why exporters of steel in several European Continental countries exported large quantities during the years 1931-32, at prices which did not cover their costs, was that they wanted to give a strong foundation to their claims for high quotas in future cartel negotiations.⁴¹ The International Rubber Regulations Committee, discussing the problem of high-cost producers, remarks: "But there is a very real check on the protection of inefficiency within a territory, since marked inefficiency would impair the ability of a territory to provide its quota, which would sooner or later be lowered."⁴²

Deliveries in the reference period, i.e., the share of one cartel member in an arbitrarily chosen year in total supplies, might be accepted without further negotiation as a basis for the determination of quotas.⁴³ Or the volume of these deliveries might be used as a starting point for further bargaining. Sometimes the reference period was called "standard" or "basic" period, and the marketing share (in produc-

³⁹ *History of Rubber Regulation*, p. 147.

⁴⁰ TNEC, *Hearings*, Part 20, p. 10935.

⁴¹ Cf. Hexner, *Steel Cartel*, p. 81.

⁴² *History of Rubber Regulation*, pp. 149-50.

⁴³ For instance, the International Tea Agreement of 1938-1943 reads: "The standard of each producing country upon which regulation of exports is fixed shall continue to be based on the maximum exports of tea from each of the producing countries in any one of the three years 1929, 1930, or 1931. . . ."

tion or exports) of individual producers or their national groups was referred to as standard, or basic quotas. The following example may illustrate one of the many quota systems. Suppose the total volume of exports in the reference year 1934 in a commodity amounted to 1,200,000 tons. Two hundred thousand tons were supplied by outsiders, the remainder having been supplied by four firms entering the cartel, as follows: A. 300,000 tons; B. 200,000 tons; C. 400,000 tons; and D. 100,000 tons. One million tons (that is the total supply minus the supplies of outsiders) is the total basic quota, and within that total basic quota the reference tonnages of A, B, C, D are their standard quotas. The standard quotas of A, B, C, and D are then 30 per cent, 20 per cent, 40 per cent, and 10 per cent, respectively. If the total standard quota is curtailed, naturally actual quotas and supplies of cartel members are decreased proportionately.⁴⁴

Many cartels did not determine in advance global supplies for the succeeding period. They simply took and filled all orders which complied with the trade terms determined by the cartel. This procedure was usually followed by price-fixing cartels. In these cartels, the quota system was used to indicate the cartel member's share in the orders taken without regard to any limitation of total supplies. Such cartels did not attempt to influence market policies by creating absolute scarcity. In this regard they differed from many large international cartels of raw materials (e.g., tin, rubber, tea, sugar), which determined in advance global supplies to be produced and "released." The prohibition of long-term contracts without special permission of cartel agencies, and the prohibition of accepting orders below prices and under conditions not determined by the cartel were in themselves curbs on quantities supplied by members. The quota schemes implied a further restraint of producer-exporter on supplying unlimited orders. This quota restraint, however, was merely a medium by which the supply of commodities was to be channelled or assigned to certain national groups. The cartel as a whole satisfied the demand that actually existed at a certain price level. Distributors and consumers knew that if one national group was out of the market for

⁴⁴ Article 2 of the International Copper Agreement reads as follows: "Mine production shall be curtailed from agreed basic tonnage to extent of 30%, effective not later than June 1, 1935, and shall continue at that rate until changed by the Control Committee hereinafter provided for. For example, a co-operating producer whose basic production is 10,000 tons shall not produce more than 7,000 tones in the month of June, 1935, and following month subject to modification as herein provided." See TNEC, *Hearings*, Part 25, p. 13528, and Adelaide Walters, "The International Copper Cartel," *Southern Economic Journal*, October, 1944, pp. 133 ff.

awhile because of quota excesses, commodities could still be purchased on the same conditions from other national groups. Large distributors were duly informed about the quota positions of the national groups. Cartel agencies had to see that members did not exceed their quotas, and if they did so, the members had to pay fines. An elaborate fast-operating statistical service made it possible for each member to estimate what his actual quota rights were in the course of the business period. Occasionally cartels guaranteed smaller participants minimum quotas for a period (e.g., 20,000 tons for a year). Several large cartels established, in addition to the general quotas, sub-quota systems for certain markets, qualities, or sizes.

Many cartels allocated geographical markets or certain customers to their members. Such measures were frequently subject to political and other considerations. In frail cartel structures many national groups and exporters wanted to keep their old customers rather than to have new customers assigned to them by the cartel. This would afford them a continuity of outlets in case of disintegration of the cartel. Exchange restrictions in many countries during the thirties made markets with free exchanges more attractive.

The fixing of prices and trade terms (including extras) was the main object of a great many cartel agreements. Frequently cartel agreements delegated price and pricing policies to specific cartel agencies. Usually minimum prices were instituted by cartels. There are also examples of the cartel admonishing its members in boom periods not to charge higher prices than determined.⁴⁵ The copper and lead cartels did not fix prices directly. When prices for a certain number of days on the commodity exchange reached a certain level, all supply restrictions in copper or lead were lifted. The strictest price discipline was followed, naturally, by those cartels which had common sales agencies or which pooled returns or profits.

5

The time period for which cartel agreements were concluded has varied considerably. Most of them were made for a period between one and five years, although there existed cartels established for three months and for ten years; others have been established for an indefinite period. The renouncing clauses generally have followed the patterns of other business agreements. However, often cartel connections could be dissolved when the turnover on the market was lower than ex-

⁴⁵ See, e.g., Flexner, *Steel Cartel*, p. 179.

pected, or when outsiders exercised greater influence upon the market than originally foreseen.

In large comprehensive cartels, like that of steel, the renunciation of one significant sectional agreement (e.g., semifinished steel) automatically allowed the renunciation of others (for instance merchant bars, structural steel).

Cartels regulating supplies and prices often have contained provisions for the periodical settlement of quota and other accounts. The periodic equalization of excess and deficit in quota accounts has taken place either by transferring the balance to the next accounting period, by dropping it, or by payment of fines and compensations. In many cartels, members exceeding their quotas could be required to turn over certain orders to groups which were in quota deficit.

6

A large number of cartel agreements do not contain any specific mechanism designed to supervise the fulfillment of obligations by cartel members; many agreements do not provide a separate arrangement for the enforcement of cartel rules. The possibility of retribution guaranteed the fulfillment of these "gentlemen's agreements." Even where an elaborate system of supervision, deposits, conciliation, and arbitration is provided for, these mechanisms have not operated in the manner customary in business life. They can best be compared with the functioning of supervisory and enforcement procedures before the Second World War in international political intercourse. The actual invocation of enforcing procedures almost invariably showed the deterioration of the cartel organization. Many cartels accepted as an arbitration tribunal the one established by the International Chamber of Commerce in Paris. Frequently the President of this Chamber was designated to name the arbitrator if the parties could not agree on one.

European cartel agreements sometimes employed outside accounting agencies for auditing purposes. The International Steel Cartel used for its Continental European transactions the services of a Swiss public accounting agency. The American and British members of the cartel rarely submitted to such outside supervision. The International Rail Makers' Association was administered by a British public accounting firm.

Infractions of the cartel agreement were often punished by charging the quota accounts of members with a specified tonnage (as though they had actually sold that amount), or by levying money

penalties. The procedure followed did not measure up to the principle of "due process." All cartel agreements have contained a tacit safety valve in that the member could quit without risking those consequences which are customary in breaking ordinary business agreements.

It is outside the scope of this study to offer more than a cursory picture of the structure of cartel organizations. The rules followed in these structures have resembled more those of primitive and undeveloped social groups than modern legal patterns. There are those who have not taken these "deficiencies" as shortcomings, but rather have regarded the looseness of cartel relationships as natural. In their opinion business agreements of an organizational nature such as cartels represent do not require patterns customary in municipal law.

CHAPTER V

The Policies of International Cartels

I

IN THIS CHAPTER attention will be given to certain cartel policies not emphasized elsewhere in this volume.

People often ask whether there have been efforts to co-ordinate major world cartels. To the best knowledge of this author, only one attempt was made, a short time preceding the Second World War, to induce large international cartels to co-operate in the framework of a common organization. Dr. Clemens Lammers, a German cartel expert, recommended early in 1938 the establishment of an agency to co-ordinate large international marketing controls under the auspices of the International Chamber of Commerce. As a result of his efforts the Bureau of International Cartels was established in Paris in the summer of 1938. The field in which collaboration among unrelated cartels is possible is very narrow and vague. According to its by-laws, the object of the Bureau was not only to study cartels and publish the results of studies but also "to discuss questions of common interest" and "to support international organizations, which already exist or are in process of formation, by lending them material or other suitable collaboration." Though several large cartels accepted membership, the Bureau of International Cartels did not attempt to exercise the slightest influence upon their business activities. It encouraged international cartels to publish reports on their organization and principal policies.¹ The by-laws of the Bureau are reprinted in Appendix I of this volume.

Several large international cartels formulated in their fundamental agreement the criteria for their policies. It was usually stated in the agreement whether agencies to determine specific policies should be

¹The journal of the Bureau, *International Cartels*, contains good source material. However, only two issues appeared.

set up, or whether the participants should meet for this purpose or both.

The general character of cartel policies is dependent upon a multiplicity of factors. Technological structure of the commodity, traditions in markets, the amount of investment needed to start a new enterprise, the number and territorial distribution of members, government attitudes, personal relationships between cartel members, and other circumstances influenced them.

2

The lack of publicity about their operation and structure is one of the major objections to international cartels. Such publicity, of course, touches on the problem of business privacy, which is one of the traditional attributes of the institutions of "private property" and "private enterprise."² In fact, business privacy is part of the larger concept of personal freedom. How far private entrepreneurs and trade associations are under obligations to inform their government, customers, and the public about their business relations, in the absence of legal regulations, belongs in the wider field of business policy and business ethics.³ One of the major problems of public policy is the extent to which governments and other national and international public agencies ought to go in assembling and publishing business facts. Nobody will contend that sound public policy with reference to international trade, even under a regime of extreme liberalism, is possible without government agencies having access to important "private" business facts. The established institutional arrangements that exist to provide public information too frequently have been pervaded by institutional inertia. Systematic private publicity on entrepreneur marketing coalitions is exceptional. Businessmen often are disinclined to give information about their tacit or open marketing

² "The sacred right of every man to possess exclusive ownership in his own secret or discovery is a sort of inalienable right which has come down to us from ancient times, and which has more recently been hedged about with legal barriers."—Foreman, *op. cit.*, pp. 280-81. According to Allan G. B. Fisher, "The most important difficulty in the way of obeying the fundamental rule of a capitalist economy is . . . in part a statistical difficulty. All the facts about profits are presumably available somewhere, but at present we have no satisfactory means of getting at them."—*The Clash of Progress and Security* (London, 1935), p. 182.

³ The Constitution of the American Copper Institute (Art. 4) contains the provision that the records and collected statistical material of the Institute should be open to public agencies and that information compiled shall be available in essential particulars to the public through trade journals. Mr. Cornelius F. Kelley, President, Anaconda Copper Mining Company, regarded as important the opening to public scrutiny of business information available in trade associations. See TNEC, *Hearings*, Part 25, p. 13161.

combinations not only because of general business considerations but also because of the likelihood of private and public attacks. Several countries have required entrepreneurs to inform their governments and the public about their national and international cartel connections. Sometimes this duty has extended to price and other policies. A large section of this material has been subject to public inspection. In many countries businessmen voluntarily (or under gentle administrative pressure) have informed their governments concerning their international business dealings. British official reports show that participants in large international cartels have informed British agencies about their adherence to, and their policies in, international cartels.

In the United States considerable publicity is given to business facts, including those related to international combinations, through publications of government agencies (especially U. S. Tariff Commission, Bureau of Foreign and Domestic Commerce, Department of Agriculture, Bureau of Mines).⁴ These reports are models of conscientious and reliable reporting. However, they are not always co-ordinated, and much valuable material is not kept up to date. Congressional investigations and public documents of the Department of Justice contain much interesting material of this nature. However, there is no one comprehensive, compact, official report published on this point.

A conscription of almost all kinds of international business combinations was effected in the United States as of May 31, 1943. This conscription includes patent license agreements; trademark license agreements; and all agreements, whether oral or written, allocating, restricting, or determining the marketing, production, and pricing of goods and services; agreements for the exchange of commercial and technological information; management agreements; quota understandings; contracts involving the pooling of return or profit; and so forth.⁵

Senator O'Mahoney on October 25, 1943, and Representative Jerry Voorhis on December 6, 1943, introduced bills (S 1476 and HR 3786,

⁴ According to Mr. Wendell Berge, "Cartels will find it difficult to operate if the agreements upon which they are based are open to public scrutiny and examination. Any law requiring the filing of international agreements should operate like the Foreign Agents' Registration Act."—*Cartels*, p. 209. There is no doubt that the Federal Trade Commission could make inquiries according to Section 5 of the Webb-Pomerene Act as far as American export cartels and their external and internal relations were concerned.

⁵ See U. S. Treasury Department, Foreign Funds Control, *Public Circular No. 22*, issued June 1, 1943, p. 13.

respectively) calling for the public registration of agreements relating to international private marketing controls.^{6a} A similar suggestion was made on December 12, 1943, by the National Planning Commission appointed by President Roosevelt. Several proposals were made by the Kilgore and Bone Committees of the United States Senate. Congress has not yet made a final decision on these proposals.

The resistance of entrepreneurs to national legislation establishing compulsory registration of international business agreements has been slight. The *Final Declaration of the Thirty-First National Trade Convention* says: "The Convention does not oppose reasonable requirements for filing international business agreements for proper purposes, with suitable limitations to exclude small business, routine transactions and other special situations. The main purpose of such filing should be to obtain from a proper administrative authority revocable clearance as not constituting an unreasonable restraint of trade in the light of foreign laws and conditions and of our own national economic policy. The filing must be under such conditions as to preserve business secrets."^{6b}

A very interesting suggestion was submitted by the International Labor Office to the International Labor Conference during April-May, 1944, in Philadelphia, concerning international registration of "international industrial agreements." The proposal for the resolution reads as follows:

Noting that marked differences of opinion exist with regard to the advantages and disadvantages of international industrial agreements concerning such matters as patent rights, the control of production and the allocation of markets, but believing that such agreements may have widespread repercussions on production, prices and standards of living.

The Conference:

(a) considers that the full searchlight of publicity should be directed on the existence and operation of such agreements; and

(b) urges the United Nations, as a first step in this direction, to initiate arrangements for the registration of all such agreements by, and the submission of full information concerning their operation to, an appropriate international authority and for the making and publication of periodical reports on the basis of this information.

The International Labor Conference did not accept and did not embody this proposal in its resolutions, but referred it to the Govern-

^{6a} A list of the bills introduced in Congress relating to cartels may be found in A. J. de Haas, *International Cartels in the Post-War World*, pp. 51-52.

^{6b} New York, October, 1944, p. 9.

ing Body. The Conference recognized that the International Labor Organization has no direct responsibility with reference to national legislation and international treaties governing international industrial agreements. It has, however, a direct interest in the effect of these arrangements upon social and economic policies.⁷

There were quite a number of large and small international cartels which recognized the advantages (public and private) of informing the public about their organization. In addition, the League of Nations and other public agencies worked on surveys of these control mechanisms. Any attempt to establish an official registration of private marketing unions of entrepreneurs on the international scale must be preceded, of course, by national legislation and by clarification of basic terminological issues.

An important distinction between the methods of operation of various marketing control schemes lies in the extent to which they impart market information about actual stocks, supplies, capacity, prices, and pricing policies, to potential distributors, buyers, speculators, and the general public. Knowledge of these facts may considerably lessen the economic and psychological strain under which distributors and consumers are put by the very existence of sellers' concerted business strategies. An enlightened information policy carries great advantages for the buyer. Such information makes price discrimination, both general and individual, more difficult. Conversely, the imparting of full market information to cartel adherents only enables the latter to negotiate business with unorganized and uninformed buyers who are weakened by all the disadvantages of an unknown market. Mr. E. T. Stannard, President, Kennecott Copper Corporation, explained that temporary suspension of reports upon copper stocks and supplies served to moderate violent price fluctuations and make more difficult the disturbing of the market by speculators. He admitted that the suppression of market information may influence prices.⁸

According to H. D. Dickinson, "The chief cause of the instability found under competitive conditions is the mutual ignorance in which competing firms work; each plans for the market or introduces new methods without regard to the similar activities of the others."⁹ W. H. Hutt comments on this proposition by stating: "But resistance to the idea of making public the internally acquired data of business is sim-

⁷ International Labor Conference, *Records and Proceedings of the Philadelphia Conference*, 1944, p. 330. See also pp. 86-87.

⁸ See TNEC, *Hearings*, Part 25, p. 13264.

⁹ H. D. Dickinson, *Institutional Revenue*, p. 130 (quoted by W. H. Hutt).

ply a form of *resistance* to competitive conditions. Mr. Dickinson stresses the wrong point. Indeed, however unconscious, the *masking of profitability* appears to be the very motive for business privacy in most cases."¹⁰ The reader will soon detect that what is involved here is on the one hand the interpretation of private property (with reference to a certain time period and geographical region); on the other hand the larger problem of business customs and business ethics. Business publicity may foster competition and cause new entries into the market; and conversely, it may be a powerful device to reduce competition. Many qualifications are necessary to express general rules on this subject. Mr. Hutt goes so far as to suggest that businessmen should be compelled to disclose to the public technological and commercial knowledge gained from years of experience and experiments. According to him, "*Risk-bearers through experiment* do obtain rewards which arise through their being pioneers."¹¹ That important national and international emergency may require legal limitations upon private property and privacy, including the disclosure of technological experience, needs no elucidation. It is doubtful, however, whether democratic countries in our age will go as far as W. H. Hutt suggests in compelling people to make public the results of their experience and experiments. It is reasonable to provide for compulsory marketing information by combinations and for the disclosure of basic facts about their structure and operation.

Even if a cartel gives out information liberally it would probably arrange for faster and better information for its members than for the public at large.¹² One of the chief characteristics of information policies is that large international cartels publish so-called "official prices," "nominal prices," or "list prices," but not actual average returns or prices of actual transactions, discounts, and extra charges for special qualities. Nominal (official, list) prices may be significant for long-term price movements, but they do not give the real picture of the actual market situation, especially if they do not show the other variable elements of the transaction. Nominal terms often remain stable for years, whereas actual terms of sales change substantially up and down. The reader who tries to learn actual export prices for glass, pulp, etc., between 1933-1939, is confronted with price and pricing

¹⁰ W. H. Hutt, "The Sanctions for Privacy Under Private Enterprise," *Economica*, 1942, p. 241.

¹¹ *Ibid.*, p. 244.

¹² See the discussion of cartel publicity in Hexner, *Steel Cartel*, pp. 19 ff., 178 ff. The significance of adequate market information is discussed in National Bureau of Economic Research, *Cost Behavior and Price Policy*, p. 19.

secrecy. Actual business returns and actual business terms have been disclosed mostly to cartel members alone.

A few intergovernmental commodity schemes experimented with consumer representation in policy-determining meetings. This type of publicity is discussed elsewhere in this volume. That device, though laudable, is no substitute for large-scale publicity. The consumer representatives in the International Rubber Regulations Committee received information on cost¹³ and price policies and even agreed on certain policies,¹⁴ but the costs on rubber up to 1943 remained a carefully guarded secret to the public. In 1944 certain less important details have been revealed.

Cartel publicity, if voluntary, is a demonstration of good faith. Publicity may become not only the sign but the incentive and guarantee of good faith. There is every reason to assume that reasonable publicity will place cartel discussions on a more realistic level.

3

The degree of entrepreneur co-operation is one of the dominating factors in the development of prices. Prices and pricing policies were the crux of many cartel activities. It is in the behavior of prices, and in their relationship to other significant economic factors, that the effectiveness of marketing control schemes are best known. Recent research in many countries has revealed interesting facts and conclusions concerning domestic price structures and their relationships to each other. However, no adequate treatment (or statistics) exists on price patterns, pricing techniques, price trends, and general price relationships on international markets, nor on their development under the impact of artificial marketing control schemes. The world price level (export price) of sheet glass, steel plates, nitrogen, coal tar dyes, etc., cannot be computed from the disparities of the several domestic price levels. Thus it might happen that the domestic price of a certain type of electric bulb in Holland was 20 cents, in the United States 12 cents, in Argentina 14 cents, although its general export price was 8 cents. The export price of a commodity never includes the effect of different import restrictions, its adjustment to prices of domestic producers, and so forth. Except for those figures on certain raw materials and food-stuffs, data are more easily available about domestic than export prices. Fluctuations in exchange rates cause confusion in export price

¹³ Cf. War Production Board, *Special Report of Office of Rubber Director on the Synthetic Rubber Program*, Appendix A, August 31, 1944, p. 18.

¹⁴ Cf. *History of Rubber Regulations*, *passim*.

comparisons. The comparison of export prices before and after devaluation of currencies may give a distorted picture.¹⁵

A discussion of domestic wholesale prices of important commodities with reference to many countries, included in the price investigation of Frederick C. Mills, is of capital importance for cartel research.¹⁶ International cartels influenced these prices as well as world market prices. The greatest difficulty lies in obtaining statistics on export prices of manufactured and semifinished commodities.¹⁷

The League of Nations recognized the importance of listing the movements of export prices of important commodities. Regrettably, not many manufactured and semi-finished articles are included in the League's statistics.¹⁸ The League's list of price changes, many of which pertained to collective-market controls, are reprinted in Table 1. Steel figures from this table should be briefly analyzed here in order to show what difficulties are faced in the appraisal of export price movements. There was a fair amount of publicity on official steel export prices, so this data may be easily verified. The League in order to illustrate steel export prices selected the movement of Belgian export prices of "steel girders." This was an appropriate sample because Belgian export prices were most characteristic of the steel export market and because the commodity chosen was one of the most significant in the development of steel prices. Prices of "steel girders" are included or coincide with the prices of the category "heavy structural steel" in general steel price statistics. The following

¹⁵ The following example may show the difference in price movements in rubber in old and new dollars. New York prices of crude rubber in cents per pound.

Year	Current cents	Old dollar basis
1931	6.20	6.20
1932	3.47	3.47
1933	5.95	4.64
1934	12.93	7.63
1935	12.37	7.30
1936	16.51	9.75
1937	19.42	11.45
1938	14.70	8.68
1939	17.91	10.57

¹⁶ See e.g., *Prices in Recession and Recovery* (New York, 1936), pp. 162 ff. There are some prices which are identical with "world" prices. Thus the prices of tin, lead, copper on the London Metal Exchange, or the tea prices on London auctions may be considered as "world" prices.

¹⁷ TNEC *Monograph No. 6* is devoted to export prices. Because of the specific aspect from which the material was viewed and considerations of safeguarding business secrecy, no actual export prices are listed or discussed, although the study contains much valuable material. Important data about export prices may be found in the International Surveys of the *Statistisches Jahrbuch für das Deutsche Reich*.

¹⁸ Cf. *Review of World Trade 1938* (Geneva, 1939), p. 13.

TABLE I
PERCENTAGE CHANGE IN AVERAGE GOLD EXPORT PRICES FROM 1929 TO 1938

	1929 to 1932	1932 to 1933	1933 to 1934	1934 to 1935	1935 to 1936	1936 to 1937	1937 to 1938	1929 to 1938
1. Silk tissues (France).....	-61	-6	-3	-12	-15	-12	-24	-82
2. Coffee (Brazil).....	-53	-23	-10	-26	+11	+18	-36	-80
3. Raw silk (Japan).....	-68	-17	-38	+19	+12	+9	-12	-79
4. Grey cotton tissues (Japan)...	-63	-8	-8	-8	-2	+22	-18	-71
5. Cotton (United States).....	-63	-1	+0.2	+2	+0.4	-5	-17	-71
6. Copper (United States).....	-66	-11	-17	+1	+19	+40	-23	-67
7. Petrol (United States).....	-47	-24	-21	-0.7	+8	+10	-9	-66
8. Wool (Argentina).....	-72	+1	+35	-27	+45	+34	-35	-65
9. Sugar (Czechoslovakia).....	-51	-8	-18	-20	-1	+13	+8	-64
10. Butter (Denmark).....	-58	-22	-17	+15	+9	+5	+3	-64
11. Maize (Argentina).....	-63	-21	+5	-18	+28	+25	-1	-60
12. Rubber (British Malaya).....	-84	+25	+77	+3	+35	+21	-28	-59
13. Wheat (United States).....	-52	-19	-25	+50	+8	+13	-19	-57
14. Newsprint paper (Canada)....	-30	-33	-25	-2	+2	+6	+17	-57
15. Cement (Germany).....	-35	-23	-8	-4	-11	+4	+16	-53
16. Chilled beef (Argentina).....	-53	-6	-22	+26	+12	+4	-5	-52
17. White cotton piece goods (United Kingdom).....	-48	-3	-9	-3	-1	+12	-4	-52
18. Bacon (Denmark).....	-64	+21	+10	-1	+5	+0.6	+2	-49
19. Tin (British Malaya).....	-53	+35	+7	-6	-9	+20	-24	-47
20. Passenger motor-cars (United States).....	-17	-30	-20	+1	+4	+3	+5	-47
21. Tea (Ceylon).....	-62	+21	+10	+1	+4	+13	-10	-46
22. Mechanical wood-pulp (Finland).....	-50	-11	-0.2	-10	+4	+18	+15	-43
23. Steel Girders (Belgium).....	-17	-16	-8	-25	+1	+19	+9	-37
24. Coal (United Kingdom).....	-27	-7	-9	-2	+5	+9	+11	-23
25. Mowing machines (Germany)...	-5	-6	-3	-2	-10	-1	+4	-21
26. Pig-iron (United Kingdom)....	-38	-5	-10	-2	+14	+41	+18	-2

passage discussing this matter is quoted from the author's *International Steel Cartel*:¹⁹

In order to illustrate the degree of caution necessary in drawing conclusions from statistics relating to steel export prices, it might be interesting to compare the fluctuation of figures published by the League of Nations (a source rightly regarded as very reliable), with the figures published by other sources. According to reports of the Belgian National Bank, published in the *Bulletin d'Information et de Documentation*, the average Belgian export prices for structural steel, per long ton, f.o.b. Antwerp, in gold, were:

1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
5.1.5	4.12.11	3.6.0	2.5.5	2.10.8	3.0.3	3.1.6	3.2.10	4.12.8	5.0.7

Thus prices between 1929 and 1938 do not show a fall of 37 per cent, as in the report of the League, but a decrease of less than 1 per cent. Be-

¹⁹ Pp. 188-89.

tween 1929 and 1932 the League's report notes a price fall of 17 per cent, whereas a decrease of more than 54 per cent is apparent in the prices published by the Belgian National Bank. For an even more interesting comparison, according to the figures of the League of Nations, gold export prices of steel girders continued to fall after 1932; after dropping fully 25 per cent between 1934 and 1935, they slightly recovered between 1935 and 1936 with an increase of one per cent. However, according to the statistics of the Belgian National Bank, gold prices of structural steel reached their lowest point in 1933 and steadily, though slowly, increased until 1936. Whereas the League publication indicates a price increase of 19 per cent between 1936 and 1937, the prices in the report of the Belgian National Bank show a rapid increase of almost 50 per cent for the same period. It should be noted that the figures reported by the Belgian National Bank correspond roughly to those published in trade journals, to those included in the report *Iron and Steel*, published by the United States Tariff Commission, and to those quoted in official reports.

Steel price statistics may be also used as an example of the effect of cartel ties upon markets. It is well known that the total unit costs of merchant bars, structural shapes, heavy rails and wire rods are not very different. On the European Continent all four commodities were subject to the European Continental Steel Cartel until October, 1929. Wire rods and rails had, in addition, their own cartels which were rather well disciplined. These latter cartels did not disintegrate during the Great Crisis, whereas the Continental Steel Cartel became ineffective at the end of 1929, and in 1931 disintegrated completely. Other circumstances, of course, also influenced the price movements of these four commodities. It is revealing to look at Table 2, which in a simplified manner presents the average export prices of steel commodities in which cartel connections gradually disintegrated alongside those in which they persisted. The fact that the re-established European Continental Steel Cartel did not succeed in June, 1933, in raising prices considerably, does not change the picture.

Many other interesting export price investigations could be made, in connection with the volume of exports, from the aspect of international cartellization, using available source material from trade journals.²⁰ That economic research has neglected this important field is regrettable. A few of the pertinent problems have been discussed by Messrs. F. C. Mills, R. T. Bye, Jacob Viner, W. C. Mitchell, E. G.

²⁰ According to the Economic Intelligence Service of the League of Nations many of the substantial price increases in commodity prices, after the Great Crisis, were caused by the existence of market-control mechanisms. *World Economic Survey*, 1934-35 (Geneva, 1935), p. 65.

TABLE 2
YEARLY AVERAGE STEEL EXPORT PRICES IN GOLD STERLING PER LONG TON F.O.B. ANTWERP

Year	Products in which marketing controls had disintegrated		Products in which marketing controls were maintained	
	Merchant Bars	Structural Shapes	Heavy Rails	Wire Rods
1929.....	5.15.1	5.1.5	6.10.0	6.7.6
1930.....	4.16.9	4.12.11	6.5.10	6.5.0
1931.....	3.9.10	3.6.0	6.0.0	5.9.0
1932.....	2.9.2	2.5.2	5.18.1	4.15.0
1933.....	3.1.6	2.10.8	5.16.3	4.10.0
1934.....	3.3.9	3.0.3	5.10.0	4.10.0
1935.....	3.3.9	3.1.6	5.10.0	4.10.0
1936.....	3.4.5	3.2.10	5.10.0	4.10.0

TABLE 3
FLUCTUATIONS OF ESTIMATED WORLD EXPORTS OF CERTAIN STEEL COMMODITIES IN THOUSANDS OF LONG TONS AND YEARLY AVERAGE BASE PRICES IN GOLD STERLING F.O.B. ANTWERP

Year	Semifinished steel		Merchant Bars		Heavy rails		Wire rods	
	Volume	Price	Volume	Price	Volume	Price	Volume	Price
1933...	800	2.7.0	2,700	3.1.6	490	5.16.3	470	4.10.0
1934...	1,000	2.7.0	3,380	3.3.9	800	5.10.0	500	4.10.0
1935...	820	2.7.0	2,800	3.3.9	830	5.10.0	420	4.10.0
1936...	940	2.7.0	2,500	3.4.5	820	5.14.0	422	4.10.0
1937...	1,320	5.0.0	3,200	6.0.0	1,050	5.17.0	570	6.10.0

Nourse, Read Bain, M. A. Copeland, A. F. Hinrichs, E. S. Mason, B. D. Mudgett, O. C. Stine, and T. O. Yntema in clarifying the methods and significance of Professor Mills's research on price behavior.²¹ This discussion revealed more than anything the inadequacy of organized statistical material in this field. Table 3 shows the fluctuations of prices and exports of certain steel commodities between 1933 and 1937.

German and Polish price statistics have classified prices according to whether or not they were subject to marketing agreements.²² These

²¹ Social Science Research Council, R. T. Bye (ed.), *Critiques of Research in the Social Sciences: II* (New York, 1939), *passim*. The inadequacy of empirical research in this field is discussed in a publication of the National Bureau of Economic Research, *Cost Behavior and Price Policy*, *passim*.

²² See e.g., Horst Wagenführ, *Konjunktur und Kartelle* (Nürnberg, 1932), *passim*; and Polish Statistical Office, *Statystyka Karteli w Polsce* (Warsaw, 1935), *passim*, (Hereafter cited *Polish Cartel Statistics*.)

statistics call prices of non-regulated commodities "free" prices. It may be questioned whether because of severe public price regulations these "free" prices were really free. There is no doubt that these statistics are of little significance for international markets.

One of the most significant items in cartel discussions is the problem of the adjustment of prices and trade terms to the desires of high-cost producers. In no section of cartel literature do so many propositions unsupported by adequate empirical research persist. These propositions assume that exporters would be willing to include in their marketing union members who, in the absence of a cartel, were unable to export because of high costs. Furthermore, they assume that the high-cost producers, if admitted, would be able to induce the cartel to determine prices that would cover their costs. Thus cartel price policies would follow the desires of high-cost producers, even when they constitute a small minority. The efficient producers would then be in a position of artificially restricting their production and exports in order to secure an outlet for the high-cost producer. And thus the demand which depended upon lower prices would be lost.

Of course, the concept of the high-cost producer implies that his costs be significantly higher than those of the lowest-cost producer. This comparison presupposes that the units of comparison are of optimum size and are being operated at optimum capacity. A difficulty is encountered in this discussion by the fact that a producer with high average unit costs may be a low-cost producer with reference to the exported commodity because his additional costs of producing the exported commodity are lower than the additional costs of those whose average unit costs are low. This difficulty is a practical one because exporters with well-protected domestic markets frequently calculate that their fixed costs will be carried by the domestic market. In addition, comparison of costs for the period preceding the Second World War were greatly influenced by the intricacies of exchange values.

A quasi-monopolistic position practically excluding the influence of outsiders and reducing the bargaining power of efficient producers may be created by intergovernmental marketing schemes. The quota allotment of these schemes has a different character from those of private cartels. Their protection of high-cost producers may be based on considerations other than those in the case of regular international cartels.

Contrary to the experience in some domestic cartels, high-cost producers, as a rule, have had little bargaining power in international

cartels.²³ In many cases, high-cost producers did not have sufficient financial strength to exercise pressure upon the wishes of the low-cost producer. In the few instances where they were sufficiently strong and threatened price war, their bargaining power was naturally strong. The high-cost producer is able to survive on an international market only because of the operation of other factors than costs. This remains true when he is a member of a cartel as well as when he is not. If prices are set high, in all probability they would have been high anyway, without his participation. The strong exporter who participates in a cartel does not do so because of altruistic feelings toward marginal producers.²⁴ The cartellized exporter, like the non-cartellized entrepreneur, tries to attain the highest total profits in the long run, and the policies of marginal producers may be considerable obstacles to this achievement.

Reasoning about the possible adjustment of price policies to the

²³ A preliminary study of the Economic Section of the League of Nations ("A Note on International Cartels," August, 1944, P. E. F. 19, p. 15) holds the diametrically opposite view from that represented here. According to that study the probability that high-cost producers will be included in cartels and will influence price policies "holds an even greater degree for international cartels than for national ones, owing to the looser structure of the former." The study of the League assumes that in international industrial combines of the corporate type there is sufficient incentive for a unified cost policy and for keeping costs as low as possible. Conversely, "No such incentive prevails and no such policy can be followed in the case of international cartels. Here the high-cost producer in becoming a member of the cartel organization strengthens his position either by securing a share in total output and being able to participate in the determination of the cartel price at a level covering his own costs, or by securing a monopoly position in a certain area. Even though it might be in the interest of the lower-cost producers to eliminate the less efficient units, the very fact that the latter are included in the cartel renders such action impossible." This reasoning results from the assumption of the League that it is a "fact" that the high-cost producer is included among the cartel participants. This assumption leads the League to the conclusion that "Preservation of the high-cost producers and the presence of unused capacity among the more efficient ones are therefore common features of cartellized industries. Total costs for the industry as a whole tend to be higher than under other forms of industrial combination which provide for unified management."

²⁴ J. B. Condliffe and A. Stevenson say that one of the greatest dangers of the system of international cartels is the protection of high-cost producers. According to them, illustrations may be taken from the tin, copper, Chilean nitrate industries, and others (*The Common Interest in International Economic Organization*, p. 57). It would be most revealing to investigate in detail the role played by high-cost producers in the international markets of tin, copper, nitrates, etc. This author is not sure whether such detailed investigations would support the generalized proposition. In all of these markets high-cost producers operated without doubt. What is to be questioned is whether private international market controls were the prime factors contributing to their maintenance in the market. P. T. Ellsworth expressed fears as to whether the high-cost copper producers of Chile would maintain their position in a private international cartel, whereas he considered that an intergovernmental scheme might maintain that position.—*Chile: An Economy in Transition* (New York, 1944), p. 138.

interests of high-cost producers must take into account the degree of monopolistic power which the cartel possesses. If outsiders can or do operate alongside the cartel, and this is usually the case, any adjustment in favor of the high-cost producer would indirectly strengthen the competitive position of the outsider. In the case of specialized commodities for which substitutes cannot easily be found and where entry to production or markets is difficult, an adjustment to the wishes of high-cost producers can easily be understood, although it is questionable whether such high prices would not be exacted anyhow.²⁵

All price decisions in the cartel will be the result of compromises among the members according to their power. Obviously, the marginal producer, the one with the highest cost, will not be the strongest. He will, therefore, have to give in or withdraw from the export market. The necessity of exporting large quantities was so imperative among several European (and sometimes non-European) national groups that no cartel tactics aimed at maintaining high prices would have succeeded if these exporting groups seriously felt that price concessions to purchasers would notably increase the demand for their products. In many international cartels in the thirties the cost-price mechanism was a mere caricature. Many groups tacitly assumed that overhead costs would be covered by transactions on the domestic markets. The export price level was not decisive in determining whether those groups should produce and export. The compulsion to obtain foreign exchange, to maintain employment at home, to safeguard their position on the export market, were frequently greater influences on the quantities produced and exported by these groups than export prices. Several forms of export promotion schemes were introduced by governments in attempts to reduce losses of their producers in export markets. The student of these problems must always keep in mind that in the large cartels the cost structure of the different national groups, their interests in the domestic market and exports, and the repercussions of exports on domestic markets varied considerably.

In English-speaking countries, especially in the United States (and to a certain extent in all countries with well balanced currency policies), entrepreneurs were less inclined to export at prices below the average total unit costs. The American attitude toward steel exports, especially those of semifinished steel, is one such example. In 1932, when merchant bar prices reached their low of £2. (gold), American

²⁵ Carl Duisberg quotes an early example of a pharmaceutical product which sold in the United States, where it was patented, many times higher than in other countries. Cf. *Meine Lebenserinnerungen* (Leipzig, 1933), p. 86.

total steel exports did not surpass 500,000 tons.²⁶ The secrecy of each producer concerning cost elements and the obstacles in the way of comparing cost factors of producers in different national groups make it impossible to determine what the average cost per unit of production for various commodities on the world export market actually was. If this difficulty were surmountable, important conclusions could be drawn regarding the general pathology of international trade, the pressure under which national groups have had to operate in order to export, and the extent to which losses on the export market were covered by domestic operations and public support of one kind or another.

During the investigation of costs in the copper industry, an industry in which less efficient units in peacetime are gradually removed from the export market, the following characteristic dialogue took place between the Representative of the United States Department of the Treasury, Mr. Joseph J. O'Connell, and Mr. Cornelius F. Kelley, President, Anaconda Copper Mining Company:

Mr. O'Connell: Assuming it would be legal, do you think there would be anything improper about an organization of businessmen attempting to get as high a price as they could for a commodity?

Mr. Kelley: I think it would be decidedly immoral, except as that high price was related to the cost of their product and to its value to the consumer and was within reasonable limits.

Mr. O'Connell: What kind of test would you apply?

Mr. Kelley: I would apply a test that took the cost factor into consideration, that took the price, and that resulted in paying a fair return upon the capital invested.²⁷

Mr. Kelley's suggestion of using the standard of fair returns to determine prices is not applicable to the export markets. Regardless of the fact that fair returns have different implications for United States, Chilean, and Yugoslav producers, no one on the London Metal Exchange showed particular interest in whether a particular amount of copper sold was mined in high- or low-cost mines and whether returns were unsatisfactory to the producer or seller. What is called

²⁶ The International Steel Cartel met exceptional price situations, when producers could not be induced to sell large quantities of semifinished products below production costs, by exceptional measures. Thus in 1936 the European steel cartel gave to exporters of semifinished steel bounties of 1 £ (gold) per ton for semifinished steel imported to Great Britain. See International Chamber of Commerce, *International Ententes*, Document 4, prepared for the Berlin Congress of the International Chamber of Commerce (Paris, 1937), p. 47. (Hereafter cited *International Ententes*.)

²⁷ TNEC, *Hearings*, Part 25, p. 13182.

the free enterprise system is based on profit and loss. The concept of determining prices on fair returns may be sound but it is certainly the opposite of free markets. Naturally, cartel policies may be rightly criticized from the point of view of whether economic power is used to attain excessive prices.

An important question from the point of view of the price-cost mechanism is whether or not international cartels succeeded in rationalizing production through apportionment of the exports of different commodities, or certain qualities or sizes of one commodity to different groups. Thus, according to such a scheme, each national group would have exported, under the division-of-labor principle, only that commodity, quality, or size it was best fitted to export. One may safely state that such technical rationalization was very rare. On the one hand, domestic consumption frequently required a comprehensive production program; on the other hand, no cartel adherent looked upon the cartel structure as essentially permanent, and that is why he attempted to maintain his exports for almost all commodities which he would export in case of the disintegration of the cartel.

In pricing, cartel decisions were generally expressed in base prices which could be adjusted according to individual circumstances. Usually members were expected to follow official prices unless they had the consent of cartel agencies to vary from them. How far actual prices deviated from nominal prices is unknown outside the cartel. In addition to base prices, frequently "extra lists" were agreed upon for specific sizes, qualities, and other particular performances.

Nominal prices in several cartels were expressed in gold, especially after the depreciation of the English pound. In steel, cartel-conversion rates, which more or less approached official conversion rates, were agreed upon.

At times, general geographic price patterns were set up. Customers often received only delivered price quotations, computed according to cartel-determined standards, under which the seller was to insure, arrange, and pay for transportation to the port of delivery. The geographic price structure was undoubtedly one of the most efficient auxiliary means of restricting competition among cartel members. Otherwise, exporter-producers, situated more favorably in regard to shipping expenses, would enjoy competitive advantages. Official freight rates on which delivered prices were computed were rigidly fixed for European cartel members. This practice resembled the customary pattern of "basing point" systems. In several cartels an additional, more-specific geographic price structure existed. This second type

related to certain geographic zones, e.g., Straits Settlements, China, South Africa, Argentina. The particular nominal prices for geographic zones took into consideration domestic conditions in the importing country, outside competition, the particular wishes of the British or American groups in regions which they preferred to serve, and so on. Whereas the general geographic price system was mainly directed toward regulating competition among cartel members, the system of specific geographic base prices was aimed at the elimination of outside competition and at the adjustment of prices to specific local business situations. Thus many cartels had a general nominal price for markets for which no geographic zone prices existed, and special nominal prices for particular markets. Fixed freight rates were added to specific geographic base prices, just as they were added to the general base prices, in order to establish uniform delivered prices for the specified areas or zones.

A few examples will illustrate the application of the specific geographic base-price system. The official general base price for steel merchant bars in November, 1935, was, per long ton, f.o.b. Channel or North Sea ports, £33.9 (gold). However, the official geographic zone price f.o.b. Channel and North Sea ports for exports to Argentina was £38.6; for Egypt, £37.6; for Denmark and Norway, £37.0; for Brazil and the East Indies, £35.0; and for South Africa, £30.0. The South African price was low because immediately before the conclusion of an agreement with South African domestic producers, competition in that region was particularly heavy. In 1937, when demand was particularly strong and the cartel did not want to change official prices, a semi-official system of premium payments in addition to official prices was introduced for many commodities, including merchant bars. The zone-price pattern was followed for the premium system also. Thus the premium paid on merchant bars was twenty shillings (gold) in Japan, China, Manchukuo, and India, and ten shillings (gold) in Canada and the United States, whereas the general nominal premium amounted to fifteen shillings (gold). At the end of 1937, geographic zone prices were raised on Far Eastern markets only, while the general nominal price for merchant bars remained unchanged. During the first half of 1939, when the official general base price for merchant bars was £55.0 (gold), the nominal zone price for Sweden was £417.0; for Finland, £417.0; for Yugoslavia, £515.0; and for Norway, £417.6 (gold). In order to meet American outside competition, the merchant bar cartel lowered its official zone prices in Central America to £415.0 (gold) in 1939; and because of Australian com-

petition, the zone prices in the Straits Settlements and China were decreased to £4.11.6, and those in the Dutch Indies to £4.12.6 (gold) the same year.

Nominal prices were frequently uniform for large and small buyers. However, small buyers were at a competitive disadvantage in that concessions were frequently made to consumers of large quantities. The latter, well acquainted with cartel pricing techniques, often demanded concessions in the form of fidelity rebates, i.e., rebates for promises to buy exclusively from cartel members. In this respect the situation did not greatly differ from that of domestic markets. The rebate system was most common in times of heavy competition from outsiders.

Cartel studies rarely deal with the techniques of price cutting and non-price competition among cartel members. The study of cartelized markets shows that despite elaborate mechanisms within many cartels there existed underground competition. This was somewhat easier in cartels with complicated price regulations (extra lists, freight equalization systems, etc.).

It would transcend the scope of this volume to elaborate more in detail on price and pricing policies of international cartels. The reader will find short descriptions of such policies in the case studies. Until adequate new research is done, this important field of cartel policies will remain in the dark—to the joy of those who are interested in that darkness. Unfortunately, in many quarters the boldness of assumptions about price policies in international markets is in inverse relation to the actual knowledge gained from experience and empirical research.²⁸

4

There have been large international cartels which have restricted themselves to the co-ordination of production or of exports and that have been unconcerned with what happens to the commodity when it passes into the hands of distributors or consumers. These cartels have not been interested in the consequences of accumulation of stocks by distributors or in problems arising from competition among jobbers. However, many cartel organizations have regarded the influencing or control of the distribution process as essential to their marketing system and necessary to the maintenance of cartel discipline.

²⁸ The National Bureau of Economic Research called attention to the importance of research in the fields of price-making within an interest group. It discussed business policies "subject to decisions based upon the cost-demand-rate-of-output relations for the entire cluster of enterprises."—*Cost Behavior and Price Policy*, p. 19.

There have been cartels which have included among their objectives the suppression of distributors—as was the case in copper. Copper producers freely admitted that one of the main purposes of the cartel was to exclude dealers and speculators and to sell directly to the consumer.²⁹

Distribution control schemes covered many items such as distribution through jointly-owned subsidiaries, the prohibition of selling direct to ultimate consumers, the approval (or licensing) of distributors and agents by cartel agencies, and the restriction of licensed intermediaries to the sale of commodities produced by cartel members.³⁰ Resale prices and distributor profits were often restricted to a maximum or minimum.

The cartel's interest in limiting the number of distributors and restricting its members to approved distributors arose from the need to sustain established prices and sales conditions which might otherwise be undermined. Unorganized or uncontrolled distributors might compete among themselves by cutting prices with or without the connivance of cartel adherents anxious to acquire more business. The same purpose was served by the regulation of discounts or price-margins for distributors.³¹

²⁹ Cf. TNEC, *Hearings*, Part 25, p. 13244.

³⁰ In 1938 the international merchant bar comptoir had to face the competition of so-called "merchant bars no. 3," produced from scrap by very cheap and primitive methods. Merchant organizations asked the cartel agency whether they might be permitted to handle these merchant bars, promising to call buyers' attention to the lower quality of this commodity. After protracted deliberations, the cartel agency set up conditions under which "its" merchants could sell these goods. See *Iron & Coal Trades Review* (London), February 3, 1939, p. 258.

³¹ An interesting example of competition among distributors of wire products and the kinds of issues raised, is shown in a letter published by the Kilgore Committee, *Mobilization Hearings*, Part 16, pp. 2260-61. An American distributor, representing a Belgian firm, severely attacked distributor-subsidaries of German and Luxembourg steel firms, asserting that German-owned distributors were able to sell Belgian wire products cheaper than Belgian or American distributor firms. This situation was attributed by the American distributor to German domination over the Belgian steel industry (in July, 1939). Although there is a possibility that in that particular case licensed German distributors had certain advantages over other distributors, the conclusion that Germans dominated the Belgian steel industry, which consisted of many French-Belgian-owned companies, is highly questionable. The same letter asserts that if a Belgian-licensed distributor (Ucometal) would supply an outsider-producer of drawn wire products with raw material (wire rods) the European steel cartel would break up and world steel prices would rapidly decrease. The Kilgore Committee reports: "The German steel interests by 1939 had become so powerful that the German dominance of the International Steel Cartel was accepted as a fait accompli. For instance, the German Steel Trust operating through the international cartel acquired such firm control over the Belgian mills that German firms were given a better price by the Belgian mills than were Belgian companies."—Final Report, Part II, *Analytical and Technical Supplement*,

Besides official selling agencies that sold directly to consumers, there were three classes of cartel distributors: first, those that operated from the country of production or export, although they may have had additional branch offices, agents, or subsidiaries in importing countries; second, local agents and jobbers operating in importing countries; and third, privileged firms operating in commercial centers with special knowledge, or for other reasons having a dominating position in distribution (e.g., silver, mercury, many chemicals). Many distributors (except local jobbers) have been connected by corporate ties to one or more cartelized producers. Through their distributing subsidiaries producers not only have absorbed the additional profits arising from the distribution process but also have been able to maintain their connection with consumers, a valuable consideration should the cartel disintegrate. Large United States' producer-exporters generally have distributed through their own subsidiaries. After entering the steel cartel, American steel exporters have considered also the introduction of a jobber-licensing system.³² National groups have been responsible for those licensed distributors whose licensing they sponsored.

In many cartels non-licensed distributors could not, under ordinary circumstances, obtain commodities from cartel adherents for export purposes. Even if it were possible for these merchants to obtain cartelized commodities on the domestic market without indicating their destination, it was not feasible to export commodities purchased in this manner, usually because domestic prices were higher than export prices. When this was not the case other factors might constitute a barrier. In Belgium, early in 1936, domestic and export steel prices were practically equal. It happened that at this time foreign currencies were greatly in demand. Several unlicensed merchants attempted to export and compete with cartel distributors. A report of the Belgian National Bank termed this activity a "special fraud." The same report described how the licensed merchants and the Belgian national steel cartel asked the government to stop these "clandestine" business

p. 69. The relationship between the International Steel Cartel and the sellers of wire netting was, of course, very loose, if there was any. The assertion of domination by Germans pertains probably to the International Wire Export Company in Brussels, which was the international cartel for drawn wire, and not the main organization. However, the case is characteristic for the repercussions of competition on the distribution level and upon the problem of licensed distributors.

³² According to TNEC, *Hearings*, Part 20, p. 11019, the American group envisaged using the European system of licensing exclusive brokers, jobbers, or export merchants who were responsible for applying the regulations of the cartel.

practices. The Belgian Government, complying with their request, introduced compulsory licensing of exports in co-operation with the Belgian national cartel.³³

The International Steel Cartel had elaborate regulations for distribution of cartellized commodities. United States' exporters did not participate in this scheme, except for heavy rails. A distinction was made between "free" markets in which cartel members could sell within their general quota limitations and so-called reserved markets where special sub-quota systems were established. In the reserved markets special local distributor organizations functioned.

5

Most international cartels did not exercise direct influence on the investment policies of their members. Cartellized entrepreneurs usually have made their investment decisions primarily on the basis of domestic market considerations. Even when a cartel has succeeded in raising the export price level, entrepreneurs have not regarded such price movements as a sufficiently permanent basis for heavy investments. It is probable that typical export industries without large domestic markets (e.g., the steel industry of Luxembourg, the copper industries of Chile, Peru, Rhodesia and the Belgian Congo, the nitrate industry of Chile, quebracho industries in Argentina) have been greatly influenced in their investment policies by the effects cartel connections have offered on possible returns. But it cannot be said with any certainty even of these industries that cartels have decidedly affected their investment policies.

What effects international cartels have had on maladjustments in international production it is impossible to say. One may safely state that the economic policies of governments have influenced and frequently nullified cartel interests in the suppression of expansion and new investments.

One example may illustrate the difficulty of evaluating cartel policies with reference to new investments. There is reliable evidence that the International Steel Cartel tried to prevent the establishment of steel-rolling mills in Greece by refusing to sell semi-finished steel at suitable prices, and by selling finished steel at prices which made the prospects for a rolling mill unattractive. The German national cartel, which was particularly interested in Balkan markets, wrote to the International Steel Cartel that "if this sheet mill is ever started, the Greek Government most probably will throttle imports of sheets

³³ *Bulletin d'Information et de Documentation*, May 10, 1936, p. 375.

by increased duties, etc."⁸⁴ It is very doubtful whether the establishment of sheet-rolling mills in Greece, in normal times, is sound from the point of view of international division of labor. However, Greek entrepreneurs, and probably the Greek Government, regarded this as immaterial and ridiculous in the face of the political circumstances of 1938. Like most investment problems of the thirties the question of overproduction and maladjustment has to be viewed from the political as well as other angles. One may remark parenthetically that in case of political emergency the Greek sheet-rolling mill would have been to a large extent dependent on raw material supplies from the same steel producers who were opposed to the establishment of the proposed new rolling mills. Of course, the co-operation of producers may be more effective in hampering the supply of semi-finished materials than non-co-operating suppliers.

Some cartels have existed for the specific, declared purpose of stopping "over-investment" and preventing "over-capacity." A quotation from the testimony of Mr. E. T. Stannard, President, Kennecott Copper Corporation, concerning the policies of the International Copper Cartel, of which United States producers were not direct members, illustrates this. Mr. Stannard explains why the copper cartel was restricting production:

When we started these discussions copper in Europe was selling at say 6.7 cents a pound. It was the first time we had assembled a group of producers whose ores were devoid of precious metals. In other words, we were simply copper producers and had as common competitors in the market abroad all of the Canadian production, Peruvian production and various other production containing lots of precious metal values to help pay the cost of operation. Being in about the same cost bracket, it was a rather logical set-up. We hoped through arriving at a common understanding that we would avoid additional plant installations because if one party increased its plants—put in more capital—then the others would have to follow and we would finally come down to a price of copper abroad which would be ruinous to all of us; these five main participants probably had in the neighborhood of half a billion dollars tied up in their copper investments in Rhodesia, Africa, and Chile.⁸⁵

The establishment of private entrepreneur unions and intergovernmental market controls has been frequently justified by pointing to maladjustments in industrial production, especially in raw material industries.

⁸⁴ Cf. Kilgore Committee, *Mobilization Hearings*, Part 16, pp. 2059-60.

⁸⁵ TNEC, *Hearings*, Part 25, p. 13235.

As with other aspects of international cartellization, the investment aspect needs detailed empirical investigation. The prevention of wasteful investments and the promotion of balanced expansion require a certain co-ordination of private and public investment policies. To determine what policies are good, and to secure international agreement on them are no easy tasks. To determine how far the international co-operation of private entrepreneurs is a proper mechanism for promoting balanced expansion is no easier.

6

Many fallacies in cartel discussions would be eliminated if international cartels were not generally considered as closed to outsider competition. If a private collective marketing control is closed to actual or potential competition its classification as a cartel is seriously in doubt. The problem of actual or potential outsiders takes on different shapes, depending on whether we look at the mighty alliance between Standard Oil of New Jersey and the Shell Oil Group, or the shaky International Ferrosilicon Syndicate. As to the former combination, outsiders have played the role of co-operative or non-co-operative small and medium units. In the latter, cartel policies have been shaped as much by outsider policies as the policies of outsiders have by the cartel.

There are several kinds and degrees of outsiders.⁸⁶ The "friendly" outsider is found frequently. He does not enter the cartel, or the cartel does not want him to enter it, for various reasons. The cartel and the friendly outsider do not seriously compete because of fear of retribution or for other reasons such as cartel connections in other fields. The market position of friendly outsiders, operating under the umbrella of cartel protection, free from strict cartel discipline, is extremely favorable. Then there is the entrepreneur who competes in order to induce the cartel to accept him as a member under favorable conditions. Such fights may, of course, be more or less savage according to the urgencies of the case. Still another type of outsider challenges the cartel either to subdue it or to cause its disintegration. Such fights have lasted for years and frequently led to the disintegration of international cartels or to the submission of outsiders.

Cartel agreements often provide for special arrangements to fight outsiders. If the cartel has influence on the supplies and pricing of raw

⁸⁶ Cf. about the significance of "aggressive" and "nonaggressive" competitors in monopolistically competitive markets, National Bureau of Economic Research, *Cost Behavior and Price Policy*, p. 274, and John Cassels, "Excess Capacity and Monopolistic Competition," *Quart. Journal of Econ.*, May, 1937, p. 435.

and semi-finished materials needed by the outsider, the cartel may cause discrimination against outsiders. The following regulation of a European cartel agreement indicates how the burden of fighting outsider competition may be borne:

When, for the purpose of fighting competition, the Management Committee shall authorize bids and sales with respect to certain tonnages at prices appreciably below normal prices, each group shall, in principle, share a portion of the sacrifice involved, according to the conditions which the Management Committee shall specify at the opportune time.⁸⁷

In several large cartels, quotas were set on a national basis and the exports of outsiders as well as members were charged against national quota accounts.⁸⁸

Shortsighted cartel policies and requirements of national defense frequently brought powerful new outsiders into the market (e.g., potash, mercury, sulfur). Sometimes these outsiders gradually entered in more or less friendly relations with the cartel organization.

Many national governments protected outsiders from cartel pressure. One of the most interesting examples is the Webb-Pomerene Act protecting American outsiders from being oppressed by their colleagues who join export cartels.⁸⁹

Outsiders frequently have taken advantage of the dislike of large cartels for cutthroat fights. In sharp price competition a versatile outsider might manage to lose, not only absolutely, but relatively, less than the less flexible large cartel. Distributors and well-informed customers often have taken advantage of tense relationships between cartels and outsiders.

Scientific discoveries of the last twenty years have had tremendous impact on those cartels and monopolies dealing in commodities for which synthetic substitutes have been developed. Producers of acetic acid, petroleum products, nitrogen compounds, and rubber are only a few of those that have had to face such competition. The reader will find short discussions of these problems in the pertinent case studies of this volume.

⁸⁷ Cf. Hexner, *Steel Cartel*, p. 315.

⁸⁸ Article 22 of the International Rail Agreement reads: "Each group undertakes to accept debit for all orders for exports manufactured in its own country by outside makers as if such works were parties to the agreement."

⁸⁹ It was stated in the TNEC investigation that American members of one Webb association did not prevent American outsiders from attack by European cartel members. Cf. TNEC, *Hearings*, Part 20, pp. 10949 ff.

7

Every significant business activity reflects directly or indirectly on labor policies. No international cartel has provided for co-ordinating labor policies, nor have open or tacit understandings existed in this field. Such items would have burdened the already frail cartel structures considerably, and would have introduced new opportunities for possible disagreements. Also, social conditions were so different among national groups, and depended so much on domestic political developments, that any attempt to interfere with labor policies would have been doomed to failure. In addition, interference with labor policies by foreign groups would have been regarded by all national governments as intolerable, and labor unions would have violently protested their national interests' joining international cartels if they had directly or indirectly penetrated the field of labor policies.

Certain intergovernmental marketing controls (rubber, tea, tin) indirectly exercised great influence on labor condition. However, this influence was exercised according to the wishes of the governments of the countries concerned and was probably more favorable to labor than would have been the case in the absence of controls.

Labor parties and labor unions have often discussed and expressed attitudes toward international cartels. The findings of the Joint Unemployment Committee of the International Federation of Trade Unions and the Labour and Socialist International (1930-31) on Cartels and Monopolies is fairly characteristic of the opinion of European labor circles in the interwar period. An excerpt from these findings reads as follows:

During recent years the elimination of free competition within the capitalist system, and the substitution of industrial concentration through cartels, trusts, and similar organizations, has proceeded at an accelerated pace. As a result such organizations now dominate important markets and are a vital factor in determining the quantity and distribution of goods produced and in fixing prices. Although this development has gone farther in some countries than in others, and has taken many different forms, it represents a tendency common to all industrial nations. . . . The creation of complete and partial monopolies throughout the whole range of industry reinforces the economic power of the capitalist groups concerned, and, if allowed to operate unchecked, constitutes a grave menace to workers and consumers generally. At the same time it must be recognized that the growth of industrial consolidation means an advance towards an economically higher form of capitalism, and may provide a starting point for the development of conscious planning of the economic system, such as the

workers strive to secure in socialism. Thus, Labor cannot join in a general condemnation of economic developments which tend to eliminate competition, but must rather aim at the public supervision and regulation of monopolistic organizations.⁴⁰

The establishment of the international steel pact in 1926 was received rather favorably in European Continental labor circles. For example, in steel-exporting Belgium, where Socialists played a dominant role in the national government, the Socialist Foreign Minister, Mr. Vandervelde, made every effort in the name of his government to force the Belgian steel industry to enter the cartel. According to contemporary reports, he even approached British iron and steel manufacturers, asking them to join the cartel.⁴¹ Belgian Senator Louis de Brouckère, chairman of the Labour and Socialist International, regarded the steel pact as a favorable result of the new Locarno policy. However, he took exception to the accumulation of economic power in private hands. Public supervision of large combinations would be very desirable, according to de Brouckère, because of the role of heavy industries in the preparation for war.⁴² The famous Socialist Rudolf Hilferding, member of the Reichstag and former minister of finance, regarded the steel pact as an important landmark in the development of an international economy. According to Hilferding, the definitely anti-Socialist creators of the cartel acted as Marxist propagandists in a most effective manner by establishing this organization. He attacked the Communists' opposition to the cartel, calling Communists anti-Marxist. Hilferding proposed to confer upon the League of Nations the supervision of the activities of international cartels.⁴³

Swedish socialistic co-operatives attempted to fight price policies of cartels through the establishment of outsider production. Their efforts were principally directed against domestic monopolies; however, they made extensive plans ("Luma Federation") to challenge the policies of the international lamp cartel in Sweden, Norway, Denmark, and

⁴⁰ Reprinted in Alfred Plummer, *International Combines in Modern Industry* (London, 1938), p. 290. (Hereafter cited *International Combines*.) The British Labor Party called for the supervision of cartels and monopolies along with public ownership of heavy industries. Cf. the *New York Times*, April 22, 1945, p. 14. In the International Labour Conference of 1936 (*Records of Proceedings*, pp. 359-60), the representative of the U. S. Government, Mr. A. F. Hinrichs, suggested that because of the cartellization of the steel-exporting industries the uniform improvement of labor standards might be easier.

⁴¹ "Continental Steel Trust Negotiations," *Iron & Coal Trades Review* (London), October 1, 1926, p. 493.

⁴² *Berliner Tageblatt*, October 1, 1926, No. 463.

⁴³ *Ibid.*

Finland, and they succeeded in influencing the price policies of the linoleum cartel.⁴⁴ Though this movement did not reach great significance, considering the importance and power of co-operatives in Europe, it may become an important factor in challenging combinations of private entrepreneurs. Frequently a well organized group of outsiders may have great importance in fighting international cartels, especially if that group is backed by strong political parties.

It may be worth mentioning that the International Labor Organization is about to establish Industrial Committees aiming at co-operation of national industries concerning social policy and its economic foundations in the industries concerned. Such co-operation could, of course, influence co-operation and competition on markets. It has already been agreed that these Industrial Committees would consist of representatives of entrepreneurs, employees, and governments. The suggestion for establishing Industrial Committees for major industries was discussed in the New York (1941) and Philadelphia (1944) Conferences of the International Labor Organization. Specific proposals in this regard were submitted to the Governing Body in December, 1943, by the British Government. Efficient working of these committees depends considerably upon the re-entrance of the Soviet Union into the International Labor Organization. Innumerable questions may be raised with reference to the structure and operation of these committees. Skeptics may even doubt whether their objectives have been adequately circumscribed. In the opinion of this author these proposals are worth serious consideration. Industrial committees may be successful in clarifying economic issues related to social progress and large-scale employment.

8

Cartellized entrepreneurs generally provided for their own research activities. Several international cartels maintained more or less developed research and propaganda mechanisms. The trade associations of tin and rubber producers operated large-scale research, statistical and propaganda agencies in connection with the intergovernmental marketing schemes to which they belonged. The research organization of tin producers, devoted to expansion of the uses of tin, was rather well known. No large producer in any cartel stopped his own research in order to transfer it to a cartel organization. This is not to

⁴⁴Cf. Axel Gjöres, *Co-operation in Sweden*, Manchester (England), pp. 126 ff., 240 ff., 143.

say that cartel members did not sometimes divide research activities among themselves.

All well-organized cartels had excellently equipped statistical services informing cartel members about market situations, stocks, actual business transactions, and so forth.

A few of the large cartels co-ordinated propaganda activities. Such an organization was established within the International Steel Cartel in the last year of its existence. This agency was to be attached to a different national group each year. The German group, after overcoming the great reluctance of the other groups, succeeded in being the first to administer the international steel propaganda bureau. The International Bureau for Promoting the Use of Steel used the customary means of propaganda, especially in promoting the sale of structural shapes and in attempting to counteract the propaganda of producers of commodities that might substitute for steel. The bureau was financed by contributions from national groups, computed according to actual export deliveries.⁴⁵

9

The main purpose of many entrepreneurs in entering international cartels was to prevent the import of commodities (services) to their home markets by foreign entrepreneurs. Thus they intended through private agreements to reinforce trade barriers established by their governments. There is little doubt that such private barriers could be legally prohibited. However, except in the United States, no such legal prohibitions have existed. In the United States the Sherman Act and the Webb-Pomerene Act have made home market protection agreements illegal.

In most cartel agreements mutual home market protection has been a corollary of the main structure. Imports into home markets by cartel members have been subject to the permission of the national group of the market concerned. Cartel agreements containing provisions against infractions always define entrance without permission into protected markets as an offence. The metropolitan territories of nations have been considered home markets. Colonies and protectorates have not been so considered unless expressly included. Outsiders have, of course, often exported into "protected" markets.

⁴⁵ Cf. *International Cartels*, 1939, No. I, p. 17. Before the establishment of the international bureau, the propaganda divisions of the national groups met annually to discuss collaboration. The last meeting of a special committee for the purpose of outlining the activities of the international bureau took place early in 1939 in Cologne. See *Iron & Coal Trades Review* (London), February 20, 1939, p. 298.

From the point of view of public policy home market protection seems undesirable.

The case studies attached to this volume list a few international purchasing cartels. They did not play a very significant role before the Second World War, at least not in international trade. Some marketing co-operation by large purchasers was, of course, insured by having common consumer representatives who were themselves purchasers. Thus the representative of the tin plate producers in the International Tin Control Scheme co-ordinated to a certain extent British and American purchasers' activities. The representatives of American, British, German, and French rubber purchasers in the International Rubber Regulations Committee gradually gained considerable bargaining power. According to an official report, "The attitude of the Advisory Panel underwent a considerable change as experience was gained. In October, 1934, it was nervous regarding the working of regulation and its effect on price, and unwilling to advise any reduction in the very heavy world stocks. In 1935 it showed much greater confidence in the working of the scheme; it accepted the necessity for reducing world stocks, and itself suggested a reduction of 100,000 tons a year as a reasonable objective."⁴⁶ However, later on, the co-operation between the representatives of the American, British, and German rubber purchasing groups became rather loose; they sometimes advanced contradictory proposals.

The purchasing cartel in cocoa was a rather transitory form; its policies were not at all characteristic of cartels. The international bone purchasing agreement was a part of the bone glue cartel.

The International Scrap Convention, though fairly independent, operated within the larger framework of the International Steel Cartel.⁴⁷ The chairman of this marketing mechanism was one of the

⁴⁶ Cf. *History of Rubber Regulation*, p. 102 and *passim*.

⁴⁷ Changes in scrap prices are summarized in the heavy melting steel scrap composite prices of *Iron Age*. These prices were per gross ton:

January 1933	.....\$ 6.77	November 1937	.....\$13.50
January 1935	..... 12.29	June 1938	..... 11.18
January 1937	..... 18.33	January 1939	..... 15.68
March 1937	..... 21.25	August 1939	..... 16.10
September 1937	..... 20.30		

According to *Iron & Coal Trades Review* (London), March 24, 1939, p. 550, "In the United States the Pittsburgh price [of scrap] was reduced from over \$23.—in the spring of 1937 to \$10.—within the space of a year, although since then the rate was again advanced to \$15.—16.—. . . These reductions are evidence that the convention has not only studied the pockets of its members but has also been of use to steel-makers of countries having a scrap surplus." This opinion, addressed principally to United States steel producers, disregarded somewhat the rapidly decreased demand for steel all over the world as the principal factor influencing scrap prices.

executive officers of the British Iron and Steel Federation. According to him (Mr. I. F. L. Elliott), "... the Convention fulfills the important function of pooling knowledge as to all surplus supplies, of focusing the import requirements of members, and of thus matching supply and demand by the shortest and most economical route. . . . It might become extremely difficult for the Cartel [The International Steel Cartel] to maintain prices for steel in the export markets at a level calculated to promote consumption and to guard against a mushroom growth of indigenous plants if the cost of the principal raw materials became excessive."⁴⁸ The U. S. Tariff Commission described the International Scrap Convention as follows: "The cartel members agree to buy all foreign scrap exclusively through the cartel's representative, the British Iron and Steel Federation in London; transgressing members are fined 1 pound for each long ton purchased independently. Administrative expenses are defrayed by a levy on transactions."⁴⁹ The repercussions of the Scrap Convention in sellers' circles were rather interesting.

A month after the Convention began to operate, the principal shipbreaking firms held a meeting in Venice to make preparations for establishing an opposing organization to protect shipbreakers from the activities of the Scrap Convention. Shipbreakers of principal European countries and of Japan continued these negotiations at a meeting in London in June, 1937. The shipbreakers convention did not meet with success because of the difficulty in organizing the widely separated units and because of the small amount of tonnage involved. In the United States, the main source of scrap, large scrap dealers reacted similarly to the buyers' international co-operation. They organized the Scrap Export Associates of America on May 27, 1937, for the purpose of establishing a power structure of sellers against that of the buyers. However, their organization was not sufficiently comprehensive and was dissolved in November, 1937. The International Scrap Convention did not exercise the same strict control over its members as the ISC sales comptoirs did. Contraventions were practically disregarded. The convention disintegrated at the outbreak of the Second World War.⁵⁰

From the point of view of public policies (national and international) purchasing cartels require separate consideration. Cartel literature has given less attention to this pattern than to others.

⁴⁸ *Iron & Coal Trades Review* (London), March 24, 1939, p. 551.

⁴⁹ *Iron and Steel*, Report, Second Series, Washington, 1938, p. 381.

⁵⁰ Cf. Hexner, *Steel Cartel*, pp. 162-63.

Intergovernmental Commodity Agreements and Buffer Stocks

I

INTERGOVERNMENTAL COMMODITY AGREEMENTS have great significance in cartel discussions. Such public schemes have exercised functions almost similar to those performed by cartels. Some large international cartels have operated under cover of, or intertwined with, intergovernmental marketing schemes. In cartel discussions, these intergovernmental controls are frequently mentioned as an available alternative to large private marketing organizations.

The conceptual frame of an intergovernmental marketing agreement embraces many forms, shades, and degrees of co-ordination of private entrepreneur groups.¹ Whereas in international cartels responsibility is focused upon private entrepreneurs or their associations, in intergovernmental controls responsibility is transferred to a sphere penetrated by the perplexing attributes of sovereignty. As known, sovereignty often implies something "irresponsible" and "unanswerable" along with "altruistic," and hence not serving private profit interests. If only one government's sovereignty is involved in operating a marketing scheme, the problem of responsibility is not embarrassing.

¹ According to Redvers Opie, "We can go a long way in international collaboration and consultation between governments for controlling the activities of their nationals without setting up a vast board of world managers."—"What Should be British and American Policy toward International Monopolies?" *The University of Chicago Round Table*, No. 319 (April 30, 1944), p. 16. Many regarded the Tea Regulation Scheme as a private agreement; others, as an intergovernmental scheme. *The Economist* (August 21, 1943, p. 249) wrote: "Unlike the wheat, sugar, rubber and tin control agreements, the tea scheme has never been a government scheme. The [three] . . . tea agreements have been concluded between the main tea planters associations. . . . True, they required official sanction, and the governments of the three chief tea exporting countries have supplemented them by Acts and Ordinances, and are appointing the members of the International Tea Committee."

However, if the managing body of a marketing agency consists of representatives of several governments, responsibility is diffused. This problem becomes even more complicated when a public marketing organization is faced with the reconciliation of many national public and private interests. For example, in a discussion in the House of Commons, July 24, 1935, the Secretary of State for the Colonies declined to assume responsibility for the price policies of the International Rubber Regulation Scheme of which Great Britain was a prominent member. In later discussions, however, the British Colonial Office admitted that it was directly concerned with this matter.² Conversely, there is evidence that in emergencies the British Government itself took care of certain rubber marketing problems customarily within the jurisdiction of the International Rubber Regulation Committee, without previously informing it.³ Another interesting example is furnished by the International Tea Agreement. In this case, a set of private trade associations of tea growers made an agreement with the International Tea Committee consisting of representatives of governments. According to this scheme, *private* groups of entrepreneurs delegated to an international *public* agency powers and responsibilities to administer their marketing agreement. The Agreement reads: "The Governments of the respective countries are to undertake to prohibit exports of tea in excess of the quotas agreed upon. . . ."

Many assumed that "thanks to governmental control of these schemes, the power of determining the degree of restriction is placed in the hands of authorities who can look beyond the immediate interests of the producers to their ultimate interests, and also to those of the world at large. . . . It is also thought that the principles of non-discrimination and reasonableness of charges which underlie the branch of Anglo-American law, known as the public utility law, might usefully be applied to the operation of these schemes. . . . Consumers (persons and countries), feel a confidence in the administration of schemes under government control which they do not feel in the administration of schemes of a purely private character."⁴

² See *House of Commons Debates*, July 24, 1935, col. 1832, and October 12, 1939, col. 522. It is, however, interesting to note that the Rubber Committee did not comply with a request of the British Minister of Supply to increase the quota to 85 per cent for the first quarter of 1940. See *History of Rubber Regulation*, p. 121.

³ The Committee had no prior knowledge and was not consulted as to the terms of the first barter agreement (cotton-rubber) between the American and British Governments. *History of Rubber Regulation*, p. 117.

⁴ Quoted from the *Report of the Committee for the Study of the Problem of Raw Materials*, League of Nations (A. 27. 1937. II B) [Geneva, 1937], pp. 18-19. (The Head of the Dutch Delegation in the International Rubber Regulation Committee,

Advocates of free enterprise will ask how a government can represent in an intergovernmental marketing scheme the export interests of its national entrepreneurs with reference to their business co-operation.⁵ Many people will answer in a somewhat legalistic way that governments legitimately represent all individual private economic interests of their nationals because these private interests are but atoms of the aggregate national interest. That the interest of the nation as a whole, as far as such interest is articulate, whether of production, distribution, investment, or consumption, is better represented in international economic relations by the government than by private persons is generally accepted. The fact that national governments in democracies are often subject to economic pressure and political change does not alter this proposition. Professor Jacob Viner alluded skeptically to this point in the following statement: "It is obvious from the record

Professor van Gelderen, was the vice-chairman of the League's Committee for the Study of Raw Materials, and was one of the two members who wrote the Buffer Stocks Annex (II) of the Report.) Mr. Wendell Berge, who in principle prefers governmental controls to private ones, although he opposes both types (*Cartels*, p. 245), would "remove through intergovernmental action the waste and misuse of resources which occur when industries cannot compete and are artificially maintained."—(*Op. cit.*, p. 247.) According to P. T. Ellsworth, "The formation of an international cartel would offer Chile's copper industry a considerable measure of security. Experience with previous cartel arrangements, however, is not promising. More hopeful would be the establishment of an international copper authority, subject to international governmental control, to regulate and allocate production, with the object of ensuring so far as possible the maintenance of a large volume of world output at a reasonable price, and the excessive readjustments in the economy of any single regions—(*Chile: An Economy in Transition* [New York, 1944], p. 138). Professor Ellsworth regards Chile as a high-cost producer in copper and assumes that in a free market or in a market under a "customary" cartel regime, low-cost producer-countries would gain the upper-hand. A characteristic provision concerning the advantages of public enterprise is contained in Section 5 of Article 8 of the Covenant of the League of Nations. According to that provision, "The members of the League agree that the manufacture by private enterprise of munitions and implements of war is open to grave objections." This "agreement" implies that in democratic countries public enterprise is subject to public responsibility of governments and that national governments in running public enterprises respect their international obligations. The "agreement" furthermore implies that national governments may be unable to prevent "private" enterprises from subordinating their profit interests (in peacetime) to the interests of the community of nations. The development of the chemical and metal industries makes it rather difficult to decide which industries are producing "munitions and implements of war." Experiences of the interwar period show that violations of international obligations in this respect were due primarily to the open and tacit consent of governments, or at least to their negligence in insisting that pertinent provisions of the Peace Treaties should be enforced.

⁵ According to W. H. Hutt, "private entrepreneurs are the custodians of the community's scarce resources. The powers they possess in dealing with these resources must be regarded as delegated to them by society in the consumer aspect."—"The Sanctions of Privacy Under Private Enterprise," *Economica*, 1942, p. 239.

... that when governments have shown interest in the external operation of their private monopolistic organizations, they have done so much more often with the purpose and result of strengthening the monopoly position, internally as well as externally, of those organizations than to protect other sections of the community from exploitation by them. . . ."⁶ The concept that international economic intercourse is the intercourse of nations and not of private entrepreneurs is the basic assumption underlying the advocacy of intergovernmental commodity agreements.⁷

For private entrepreneurs and for governments to be "answerable" for business transactions has different implications. Rightly or wrongly, the private entrepreneur used to be answerable only for remaining "inside the law" regardless of the wages he paid or the prices he charged at home or abroad. But governments, participating in commodity schemes, domestic and foreign, can legitimately be asked to what extent they are following ideals (and policies) related to the welfare of the international community. Ultimately, government-directed marketing policies in the international field may lead to more equitable supplies and prices; however, the problems that must be faced at present in co-ordinating conflicting interests in marketing policies of public bodies still need much more clarification. This will require a considerable degree of intellectual courage. One may conceive, of course, of international agencies managing commodity agreements as trustees of the interest of the community of nations. Such ideas were summarily advanced in the past, but today public opinion is demanding that these ideas be put into practice. As put in a more general way by Frank H. Knight, "we have much higher ideals than any other civilization known to history, and we take our professed ideals seriously, demanding that they find expression in the realities of economic and political organizations and social relations."⁸

No experienced statesman will disregard the difficulties and dangers contingent upon directing business relations by the co-operation of governments. Apart from the fact that the domestic policies of governments may cause delay in important decisions, problems of national prestige and similar imponderables may poison economic intercourse. However, the opposite may also become true. Farsighted and intelli-

⁶ *Trade Relations between Free-Market and Controlled Economies*, League of Nations (Geneva, 1943), p. 37; see also Ervin Hexner, "International Cartels in the Post-war World," *Southern Economic Journal*, October 1943, pp. 127-28.

⁷ The situation is different where large government-owned plants come into play, as is the case with rubber, quinine, diamond, timber, etc.

⁸ *American Economic Review*, March, 1944, Suppl., p. 51.

gent policies of governments may soften or eliminate tensions in private economy and restrain shortsighted private business egoism. Jacob Viner, discussing the relations between state-controlled and private economies, says that "this transformation of private quarrels into government quarrels is dangerous for peace" because "the boiling point of patriotic public opinion is lower where governments are immediately involved in controversies." He adds that "disputes . . . between nationals of different states can obtain adjudication in the courts of one or the other of these states."⁹ Under certain circumstances diplomatic agreements, determining economic interest spheres, and outlining the conditions under which private business may operate will be more conducive to international peace than politically-colored rivalries of private national groups fighting or conspiring with the tacit but irresponsible connivance of their governments. For example, policies on oil, transportation, communication, dangerous drugs, and armaments can best be settled in principle by governments. Such diplomatic agreements may leave a wide margin for the working of private initiative. Problems involving very great public interests (e.g., supplies of wheat and sugar) which seem beyond settlement by private agreement frequently have to be placed under international public regulation.

The fact that government commodity agreements are reinforced by national legislation confers great efficiency upon their operation. But it also introduces hardships and rigidities.¹⁰ Conversely, the frailty of private marketing control schemes, especially the possibility of outside competition, may yield advantages for the public.

The intergovernmental commodity agreements existing before the Second World War (wheat, sugar, meat, rubber, tin, etc.) usually concentrated on the regulation of production, or exports, or both. Most of these schemes were expected to influence prices through supply policies. Production in the long run was also affected by restrictions on planting, exporting of seeds, and so forth.

The purpose of these schemes were usually expressed in the agreements themselves. For instance, the rubber scheme stated the following as its purpose: "to regulate the production and export of rubber in and from producing countries with the object of keeping world

⁹ "International Relations between State-controlled National Economies," *American Economic Review*, March 1944, Suppl., pp. 315 ff.

¹⁰ The significance and magnitude of the task of putting intergovernmental commodity schemes into effect may be judged from the fact that the 1939 edition of the *Ceylon Handbook on Rubber Control Legislation* runs to 376 pages. Cf. *History of Rubber Regulation*, p. 49.

stocks at a normal figure and adjusting in an orderly manner supply to demand, while at the same time making available all the rubber that may be required and maintaining a fair and equitable price level which will be reasonably remunerative to efficient producers." In this purpose one can detect elements of private and public interest. From a formal point of view, however, if a government becomes the representative of producers' private interest, the private interest then automatically takes on the character of public interest.

The administration of intergovernmental marketing schemes generally was in the hands of public officials. In several schemes, however, governments were represented by directors of private companies and by trade associations. In the rubber and tin schemes, the voting members were for the most part public officials and "they were in every sense government representatives."¹¹ Thus they were bound by the general policies of their governments.

Several intergovernmental commodity schemes have attempted to arrange for consumer representation by simply including among the participants of the scheme the governments of consumer countries. Sometimes these consumer countries (e.g., in the coffee, sugar, and meat schemes) have become the dominating members of the scheme.¹² The most highly advertised devices of "interest-reconciliation" were the "Advisory Panels" of consumers. They were prominent in the tin and rubber agreements. Jurisdiction of the Advising Panel in the rubber scheme was "to tender advice from time to time . . . as to world stocks, the fixing and varying of the permissible exportable percentage of the basic quotas, new planting, replanting and cognate matters affecting the interests of our rubber consumers." No detailed reports are available on the operation of the Advisory Panel in tin control. However, the official report of the International Rubber

¹¹ *History of Rubber Regulation*, p. 153. The representatives of governments were seldom tied by instruction, and as far as instructions existed they departed from them when "circumstances" required such a deviation.—*Ibid.*, p. 53.

¹² Herbert Feis (*The Sinews of Peace* [New York, 1944], p. 245) suggests that consuming countries should play an adequate part in the administration of "supply regulation plans." Although he recognizes the difficulties involved in reconciling the interests of producing and consuming countries, he uses the Sugar Agreement as a significant example of a scheme in which such interests were reconciled. This author fully agrees with the principle of giving consumer countries influence in intergovernmental commodity schemes, but he doubts that the sugar scheme is representative in this respect. Consumer representation in the sugar, coffee, and meat schemes resulted from the peculiar circumstances associated with the marketing of these commodities. Therefore, representation of consumer countries in other intergovernmental schemes will have to take a different direction, depending on the particular problems involved in the marketing of the commodity.

Regulation Committee, *The History of Rubber Regulation 1934-1943*, deals in great detail with the co-operation of producer and consumer representatives. Because consumer representation is one of the items always mentioned as prerequisite to desirable operation of international marketing control systems, it may be useful to quote a passage from the report of the Rubber Regulation Committee in which manufacturers assumed responsibility for consumer representation:

As the words are generally used the "representation of the consumer" sometimes conceals an ambiguity. Who is the consumer? The main primary consumer of rubber is the tyre manufacturer, as the main primary consumer of tyres is the motor car manufacturer, the ultimate consumer whom they both exist to serve is the motor car user. When the public are encouraged to hope that consumers will be protected they think that they are the consumers in question; in fact it is the primary consumer who is both vocal and interested and tends to secure protection. It is hardly necessary to point out that the protection of the tyre manufacturer against a rapacious producer of rubber is no guarantee at all that the motor car user will be protected against extortion on the part of the manufacturers of either tyres or cars. . . .

. . . where a conflict of interest arises between the producer and the manufacturer-consumer it need not be due to the desire of the former for a high price and the latter for a low one. If extremes are left out of account what the manufacturer desires above all is a stable price, which enables him to avoid changes both in the size of his stock and its balance sheet value; this desire for stability might actually in certain circumstances conflict with a desire on the part of the producer for a lower price suggested as desirable by the need for adjustment to changing economic conditions.¹²

The American Government was aware of the fact that the representative of the Rubber Manufacturers' Association, who was a member of the Advisory Panel in the International Rubber Regulation Committee, did not necessarily represent the interests of the ultimate consumer. That is why it requested the participating governments in 1938, when they were extending the International Rubber Regulations Scheme, to enlarge the Advisory Panel to include a second American member who would be representative of rubber consumers as a whole, and not of just the rubber manufacturers. Although the Advisory Panel was accordingly enlarged, "it was a matter of regret that the United States Government never took advantage of a pro-

¹² *History of Rubber Regulation*, pp. 152-53.

vision made at its express request," wrote the International Rubber Committee.¹³

Consumers' representation cannot be seriously opposed because of the difficulty of selecting suitable persons to represent the ultimate consumer in the world at large. This problem is not more complicated politically and psychologically than the election of a member to a legislative body or the election of a president in a democracy. The real point at issue is one of substance, i.e., what does the public want producers of raw materials, whether united or disunited, to do? Should the tea plantations in India and the tin mines in Bolivia raise social standards to the level regarded as decent in Western democracies? Should the prosperity of native growers be protected? Should profits be kept down so that only the producers of optimum-sized plants find their business remunerative? Should investments be encouraged by price policies? If consumer representatives have more than advisory votes in marketing policies, who should bear the risks of measures decided upon by them? Consumer interests cannot be detached from the general public interest, and therefore consumer interests would seem to be served best by the same persons who represent the public interest as a whole.

Recent international conferences have discussed the future scope of intergovernmental commodity schemes. The United Nations Monetary and Financial Conference included in its Final Act a Resolution (VII) on International Economic Problems in which the Conference recommended that the United Nations reach agreement as soon as possible to "bring about the *orderly* marketing of staple commodities at prices fair to the producer and consumer alike." A Resolution (VI) concerning economic policies for the attainment of social objectives, adopted by the International Labor Conference, in Philadelphia, May, 1944, goes much further. This Resolution, concerned with the production of essential raw materials and foodstuffs, states as a goal "to ensure more stable and adequate incomes to those primary producers whose services are needed." The Resolution enumerates the objectives and means which have to be envisaged in international economic policies with reference to marketing of raw materials and food-

¹³ *History of Rubber Regulation*, p. 153. According to the same source ". . . it may be doubted how far the ultimate consumer can be protected by his power to voice an opinion on matters which will affect the supply, and may affect the price, of a material which is but one of the constituents, even if an important one, of the manufactured product which interests him; and obvious difficulties will confront anyone who wishes to find a 'representative' consumer. In practice his interests must be protected by Government representation for that specific purpose and by full publicity."

stuffs. The text of the pertinent part of the International Labor Conference Resolution reads:

In order to lay the foundation for rising levels of consumption throughout the world and at the same time to ensure more stable and adequate incomes to those primary producers whose services are needed for the production of essential raw materials and foodstuffs,

The Conference considers that the United Nations should initiate concerted action designed to ensure the constant availability to all purchasers of adequate supplies of such commodities at prices which give a reasonable return to the efficient producer and are held sufficiently stable to afford protection against major short-term fluctuations in supply or demand; and that such international agreement (a) should provide for adequate representation of consumers as well as producers, representing both importing and exporting countries, in all authorities responsible for the determination and application of policy, and (b) should aim to assure to all workers, including the self-employed, engaged in the production of the commodities concerned, fair remuneration, satisfactory working conditions and adequate social security protection, having regard to the general standards in the countries concerned.¹⁴

Recently the suggestion was advanced that governments should create an overhead organization co-ordinating the marketing policies of all significant intergovernmental commodity control schemes. This proposition was discussed at the Hot Springs Conference of the United Nations on Food and Agriculture. According to reliable reports, public opinion in the United States opposed such a central agency.¹⁵

There is little significance for future international trade in listing manufactured and semi-finished products which have been regulated by intergovernmental agreements because of the war. In peacetime only raw materials and foodstuffs have been regulated in this way. It might be interesting to investigate whether and to what extent the arguments used in favor of such governmental controls concerning raw materials and foodstuffs apply to manufactured and semi-finished commodities. Naturally, even with reference to staple commodities new detailed case studies are necessary in order to determine what type of controls are appropriate under given circumstances, what type of compulsion is required and practicable, and what policies can be usefully served in this way. V. D. Wickizer rightly emphasizes "a fact often overlooked—that an international arrangement for the regulation of one commodity can seldom become a 'model' to be followed

¹⁴ International Labor Office, *Official Bulletin*, June 1, 1944, p. 96.

¹⁵ See J. D. Black and S. S. Tsou, "International Commodity Arrangements," *Quarterly Journal of Economics*, August, 1944, p. 551.

in the control of another."¹⁶ It is especially important to investigate whether compulsory measures in consumer and producer countries are prerequisites for effective international arrangements.

2

The defenders of public and private marketing controls are wont to argue that these combinations have a stabilizing effect upon cyclical fluctuations on national and international levels.¹⁷ Such an argument would require extensive qualifications. Under certain circumstances depressions may be moderated by great flexibility in prices and supplies. Under other conditions artificial regulation of supplies and prices may be advisable. Many statesmen and economists today agree that, in addition to other measures, artificial stabilization of important staple commodities may reduce national and international trade fluctuations.¹⁸ Little investigation has been made in this respect concerning semi-finished and manufactured goods. Naturally, the expression stabilization, with reference to volume of supply and price, contains different perplexities for every commodity.¹⁹

¹⁶ *Tea Under International Regulation* (Stanford University, 1944), p. 130. (Hereafter cited Wickizer, *Tea Regulation*.)

¹⁷ Cf., for instance, Aloys Meyer, President of the European Continental Steel Cartel, "Cartels and Trade Fluctuations," *World Trade*, IX, No. 6, 62-63; "The Trade Cycle, Stable Prices in Good and Bad Times," *The Times* (London), Iron and Steel Number, June 14, 1938, p. 16; Henry Clay in *Iron & Coal Trades Review* (London, June 11, 1937), p. 1056. According to P. T. Ellsworth, "If the prices of the leading exports were free to move without hindrance, the volume of production of nitrates and copper, and therewith mining employment [in Chile], would be much less variable. . . . These conditions, however, do not hold . . . during much of the past two decades [nitrates and copper] having been subject to strong cartel control."—*Chile: An Economy in Transition*, p. 133.

¹⁸ There is considerable literature on this subject. As often mentioned in this book, opinions differ as to the conditions under which flexibility or rigidity may counteract fluctuations on certain markets. Concerning the monetary aspects of this subject see also Benjamin Graham, *World Commodities and World Currency* (New York, 1944), and articles reprinted in it.

¹⁹ The great confusion about the concept of the "steadiness of prices" may be indicated by the following example. In the official report of the International Rubber Regulation Committee, "The steadiness of the price is illustrated by the fact that the average price throughout the pre-war period of regulation was 7.35 d. per pound; this is to a decimal point the price which prevailed when the agreement was signed in May 1934."—*History of Rubber Regulation*, p. 155. However, the price fluctuations of standard quality rubber in London during the regime of the scheme in the pre-Second World War period were the following in English pennies per pound:

Year	Highest	Lowest	Fluctuation	Average
1934*	7 5/8	5 25/32	1 27/32	6 13/16
1935	6 13/16	5 3/16	1 5/8	6
1936	11 1/8	6 1/2	4 5/8	7 3/4
1937	11 3/4	6 3/4	7	9 1/2
1938	8 9/16	5 1/4	3 5/16	7 7/32
1939**	8 7/8	7 5/8	1 1/4	8 5/32

* after regulation

** pre-war period

Three staple commodities may be used as examples to show how market controls influenced price movements in a critical period. All three were strongly controlled and purported to exercise control for stabilization purposes. All three are often suggested as future subjects for inter-governmental control schemes. During twenty-one market days (from February 12 to March 15, 1937) tin prices rose from £229.- to £311.- per long ton. During thirty-eight market days (from September 15 to November 8, 1937) tin prices fell from £264.- to £181.-. According to Mr. Oliver Lyttleton, then Chairman of the London Tin Corporation, the real turnover (in contrast to speculative buying) in these stormy periods was very small, so that fairly small tin quantities purposely bought or sold on the market could have arrested these fluctuations.²⁰ However, at that time the tin control scheme did not have facilities for that purpose. The monthly average price of copper increased in New York between October, 1936, and March, 1937, from 9.563 cents per pound to 15.775 cents. Despite great efforts the International Copper Cartel was unable to prevent these fluctuations. Official export prices for steel merchant bars increased between December, 1936, and June, 1937, from £42.6 (gold) to £6.- (gold). According to reliable reports, actual steel prices were even higher than the mentioned nominal prices at that time.

The measures customarily used by cartels in such cases are cuts in production quotas when prices drop rapidly and additions to quotas when prices rise sharply. Experience has shown, however, that changes in production show their effect only after several months have elapsed. Stocks on hand or other anticipated arrangements to affect supplies quickly, in the case of rapidly rising prices—or preparedness for buying up supplies, in the case of rapidly declining prices—could be used with more immediate success.

Obviously, it would be possible in a strongly organized private cartel to require one or more participants to buy or to sell solely with the purpose of limiting fluctuations. Monetary sacrifices resulting from such operations could be apportioned among all the members.²¹ In cartels very tightly organized, especially where profits are pooled, continuous operation (including storage) could be agreed upon in depression periods.²² That such organization would presuppose mem-

²⁰ Cf., International Tin Committee, *International Tin Control and Buffer Stocks*, London, 1944, pp. 20, 21. (Hereafter cited ITC, *Tin Control*.)

²¹ Examples for the disbursement of monetary sacrifices in other connections may be found in Hexner, *Steel Cartel*, pp. 315 and 317.

²² No such continuous operation can be required in commodities customarily produced according to specified orders (e.g., most of the steel commodities).

bers with strong financial positions is understood. Up to the Second World War private cartels were disinclined to stabilize markets to that extent. They were not tightly enough organized and they did not want to take the necessary risks.

Production and employment policies of private entrepreneurs often have necessitated keeping moderate stocks. However, generally speaking, private entrepreneurs, cartelized and free, have not felt impelled to resort to storage policies in order to moderate business fluctuations. According to Lord Keynes, "The competitive system abhors the existence of stocks, with as strong a reflex as nature abhors a vacuum, because stocks yield a *negative* return in terms of themselves. It is ready without remorse to tear the structure of output to pieces rather than admit them, and in the effort to rid itself of them." Lord Keynes regards it "an outstanding fault of the competitive system that there is no sufficient incentive to the individual enterprise to store surplus stocks and materials, so as to maintain continuity of output and to average, as far as possible, periods of high and low demand."²³

Businessmen and economists frequently have suggested the establishment of private or public "buffer stocks" on an international as well as national scale, or storage financing in order to influence international economic stability.²⁴ Stocks planned or assembled for defense reasons are not discussed here.²⁵ The problem of commodity currencies is equally outside the scope of this study.²⁶

²³ "The Policy of Government Storage of Foodstuffs and Raw Materials," *Economic Journal*, 1938, p. 448.

²⁴ See e.g., Annex II of the League of Nations *Report of the Committee for the Study of Raw Materials*, pp. 56 ff.; Benjamin Graham, *Storage and Stability* (New York, 1937), *passim*; and the same author, *World Commodities and World Currency*, *passim*. This work contains the literature on this subject. André Istel suggested the establishment of National Corporations for Imported Commodities to store and release raw materials and foodstuffs in war and peace. The national corporations would co-operate similarly as exchange stabilization funds co-operate.—"Equal Access' to Raw Materials," *Foreign Affairs*, April, 1942, pp. 450 ff. See also Black and Tsou, *op. cit.*, pp. 532 ff.; and John Maynard Keynes, *Economic Journal*, 1938, pp. 449 ff. Professor Alvin H. Hansen suggested the establishment of an "International Commodity Corporation" for the control of price and primary products. Such an agency would be "designed to buy, store and sell international raw materials and to act as a buffer in the raw materials market." It would permit a free play of prices between upper and lower ranges. Cf. "World Institutions for Stability and Expansion," *Foreign Affairs*, January, 1944, pp. 248 ff. See Albert Halasi, *International Access to Raw Materials*, Studies in Postwar Reconstruction No. 2, March, 1944, p. 2. See also Ellsworth, *op. cit.*, p. 134, fn. 7.

²⁵ Such agreements are included in ILO, *Intergovernmental Commodity Agreements* (Montreal, 1943), *passim*.

²⁶ Cf. the works of Benjamin Graham, cited previously, and the articles of W. T. M. Beale, M. T. Kennedy, W. J. Winn, reprinted in Benjamin Graham, *World Com-*

Although the buying of stocks in depression periods followed by selling some in times when demand is increased, or the public financing of storage, has been frequently recommended as international measures to secure continuous employment, no such attempt has been made on the international scale. National governments have had much experience in this respect, but this experience has been colored by political pressure.

Among international marketing controls tin was the only noteworthy scheme which successfully used "buffer pools." Even the tin buffer pools were not designed to secure continuous employment; their purpose was simply to stabilize prices. One may safely state that even if the tin scheme had included direct regulation of the members' price policies, additional measures (for example, buffer stocks) would have been necessary to keep prices under control. Among the several tin buffer pools²⁷ the one established in 1938 was the most significant. When the buffer scheme was adopted, June 2, 1938, the price of tin on the London Metal Exchange was £153.- per long ton.²⁸ It gradually rose to £200.- and had not surpassed £230.- up to the outbreak of the Second World War. At the opening of hostilities, the Buffer Pool released sufficient quantities to keep the price on the London Metal Exchange at the level of £230.-.²⁹ In expectation of the coming boom, tin prices on the New York Commodity Exchange attained at the same time the equivalent of £400.0. The reasons for the Buffer Pools' non-intervention on the New York Market are unknown to this writer.³⁰ The official buffer stock in 1938 did not exceed 15,000 tons at any time. It brought substantial profits to its private participants. Among other activities the Buffer Pool lent tin to the market at a rate of £2.10- per ton. The total purchases and sales of the Pool amounted to 66,500 long tons. All overhead expenses over the whole

modities and World Currency, and several articles in *Am. Econ. Review*, Suppl., March, 1940.

²⁷ The buffer pool operating between June, 1934, and February, 1935, was highly successful. Tin price fluctuations in this period did not surpass 3.7 per cent, whereas at the same period copper prices fluctuated up to 23 per cent.

²⁸ The establishment of the buffer pool itself had a strong psychological effect upon the market, shown in a rapid price increase.

²⁹ The British Government ordered all metal markets closed on the outbreak of war. When they re-opened, September 6, 1939, tin alone, among non-ferrous metals, could be dealt in without public control.

³⁰ That suggestions were made to have large stocks available in New York is clear from the official Report of the Tin Committee. Cf. ITC, *Tin Control*, p. 32. Professor J. Anton de Haas praises the International Tin Committee for keeping a considerable portion of its buffer stock in the United States. *International Cartels in the Postwar World*, p. 25. The report of the Committee quoted here does not substantiate de Haas's information.

period of three and a half years amounted to £19,000, i.e., 0.023 per cent of the turnover.

The International Tea Committee strongly opposed buffer pools both because sufficient stocks of tea have always been provided by the tea held in bonded warehouses in London, and in the words of a well-informed source because "As a means of controlling prices a 'buffer pool' is regarded as an instrument liable to much abuse."⁸¹

The International Rubber Regulations Committee discussed many times the problem of establishment of buffer stocks. The first suggestion came in September, 1934, from the Dutch Government, which intended to take advantage of buffer stocks to reduce prevailing prices. The Dutch Government wanted to keep rubber prices at the level of 4d (gold) per pound. Higher prices made native exports uncontrollable.⁸² The Committee did not accept the suggestion, being afraid that the establishment of the stock would increase rather than depress prices. Many similar suggestions came from the American Government and from the representative of the American Rubber Manufacturers' Association. The American Government proposed "holding substantial stocks of rubber in or near the principal consuming areas, available for prompt release at any time." The recommendation of the Rubber Manufacturers' Association of July 26, 1938, was prefaced by the following statement:

Although it is believed that regulation of production and exports of crude rubber under the International Agreement has been carefully administered during the past five years and that the Committee has endeavored at all times to consider the welfare of producers and consumers based upon available information, there is always a period between the time when decision is taken and the actual effect that shortages and surpluses of rubber occur, and during this "time-lag" opportunity is afforded speculative interests to create market conditions detrimental to consumers and producers, which are not intended by the Committee.⁸³

The American buffer stock proposals required an initial expenditure of £4,000,000.-, and it was suggested that this amount should be paid in by the governments of the rubber-producing countries. Discussion of the proposal was postponed upon the request of the American representative on the Advisory Panel, Mr. A. L. Viles.⁸⁴ However there was considerable reluctance on the part of the participating governments to take this financial risk. Thus this buffer stock never became a reality.

⁸¹ International Tea Committee, *Review of the Tea Regulation Scheme 1943-1933*, p. 13.

⁸² *History of Rubber Regulation*, p. 89.

⁸³ *Ibid.*, p. 91.

⁸⁴ *Ibid.*, pp. 92-93.

If buffer stock plans are administered by international public authorities, the same conflicts of interest between the various producing countries or between producing and consuming countries will be likely to arise, as indicated above in the operation of intergovernmental market controls. Differences may arise at the point of intervention on the market or on the range of prices where intervention should take place. Nations probably would not object to using the buffer stocks to buy supplies when prices are declining. The difficulties will occur over the question of selling the stocks. Such conflicts of interest were apparent in the operation of the Tin Buffer Stock of 1938. Under Clause 18 of this Tin Buffer Stock Agreement, the executive officers of the buffer stock were responsible only for carrying out the instructions of the International Tin Committee and were pledged to secrecy so that their operations were not revealed to producers or consumers.⁸⁵

The establishment of buffer stocks by private international cartels has never been seriously contemplated. Their operation would seem to offer good possibilities in the future if they operated under public supervision. Whether buffer stocks would be useful in stabilizing employment and prices in semi-finished and manufactured commodities needs careful consideration. This author is inclined to the opinion that at least storage financing under government supervision (the suggestion of Lord Keynes) would be possible and useful in the case of certain manufactured commodities.

A critical appraisal of all intergovernmental commodity agreements is perhaps more urgently needed than other marketing analyses.⁸⁶ In the immediate postwar period intergovernmental agreements will probably become more important than other marketing regulation schemes. Appraisals have been made by the Food Research Institute, Stanford, of several commodities. These may serve as models for similar studies.

One must realize that the administration of buffer stocks of important commodities may involve large sums of money and concomitant risks.

It would be possible, of course, to have national buffer stock schemes which could co-operate with an international buffer stock plan. A buffer stock scheme is a good auxiliary device which will help to put a ceiling over and a floor under supplies and prices. By their very nature buffer stocks cannot be isolated from underlying marketing control mechanisms.

⁸⁵ ITC, *Tin Control*, p. 32.

⁸⁶ Cf. the statement of Dean Acheson in *Post War Economic Policy Hearings*, Part 4 (November 30, 1944), pp. 1079-80.

Government Trade Restrictions

I

GOVERNMENT RESTRICTIONS which prohibit or limit the inflow of commodities and services from foreign countries considerably influence co-operation and competition on domestic markets.¹ Although the probability of competition is better in the absence of public trade barriers, no general proposition that workable competition will pertain in such a situation can be validly concluded. Under certain circumstances, real or potential foreign competition may induce domestic producers to unite in a cartel. Such a loose union may become more desirable from the point of view of the consumer than moderate competition behind high tariff walls. In addition to trade barriers many other factors will determine the degree of competition or co-operation on domestic markets.

If the international competitive position of a national group is weak, and consequently it fears competition from imports, its position in the international cartel will be influenced by the height of public trade barriers. In addition, the cartel member will attempt to strengthen its domestic position by private trade barriers in the form of "home market protection." A national group strongly protected by public trade barriers has generally a better cartel position.

¹ The introduction of custom duties in the United Kingdom after 1931 supplies many examples of this point. However, competition in British domestic markets, before 1931, has not been so strong as many authors have assumed. The influence of the excise tax on copper imports (4 cents per pound) in the United States upon combination and competition was often discussed. According to P. T. Ellsworth the repeal of the excise tax "Though sure to produce violent opposition among producers of this country . . . would not only be in the interest of American consumers, but would also preserve as a national stockpile our reserves of high-cost ore." Cf. *Chile: An Economy in Transition*, p. 138. See also F. W. Taussig, *Some Aspects of the Tariff Question* (Cambridge, 1924), *passim*, especially pp. 171 ff. See further T. W. Stadler *Kartelle und Schutz Zoll* (Berlin, 1933), *passim*, and "Kartelle und Schutz Zoll" in *Handwörterbuch der Staatswissenschaften*, 4th ed., III, 302 ff.

One often encounters the general proposition that without customary trade restrictions (especially tariffs) international cartels would exist only in exceptional cases. Such statements are supported mainly by selected examples and not by a comprehensive set of case studies. A discussion of this problem would naturally require penetration into practically all marketing problems of international trade, particularly those related to employment and investment. A general removal or limitation of trade restrictions would better the chances for competitive international markets, especially in those industries into which entry is not difficult. However, in the absence of detailed information on the structure of markets, it cannot be generally assumed that most international cartels would disintegrate in the absence of trade restrictions. In many cases even stricter monopolistic organizations might develop. The removal of barriers against capital movements may prompt the establishment of combinations of the corporate type in one class of industries; in others it may enhance competition. International cartels usually have adjusted their structure and policies to trade restrictions which prevail in the respective exporting and importing countries. There are as many examples to indicate that governments have counteracted international cartel policies by import regulations and tariff policies as there are examples to indicate that governments have co-operated with international cartels through their restrictive policies.

According to Edward S. Mason, "The granting of tariff protection to increase the bargaining position of their nationals in cartel quota allocations was a regular policy of many European governments."² Gottfried Haberler also states that "in recent years many tariff increases have taken place or have been definitely threatened with the expressed intention of strengthening the position of the national industry in its international cartel."³ No more than three or four conspicuous cases in which such provisions or threats have been used are known to this author. The most famous is that which accompanied the entrance of the English steel industry into the International Steel Cartel.⁴ At the end of March, 1935, the import duties on steel commodities were increased in Great Britain from 33 $\frac{1}{3}$ per cent of their value to 50 per cent in order to place the British industry "in a position to negotiate satisfactory agreements with its competitors."⁵ An

² "The Future of International Cartels," *Foreign Affairs*, July, 1944, p. 613.

³ *The Theory of International Trade*, p. 331.

⁴ See Hexner, *Steel Cartel*, p. 88.

⁵ *The Economist*, March 23, 1935, p. 653. "A striking testimony to the efficiency of tariffs," wrote *The Times*, June 12, 1935. See also Frederick Benham, *Great Britain under Protection* (New York, 1941), p. 184.

even more interesting example of using trade restrictions in order to support cartel arrangements was the introduction of dumping duties against American steel in the Union of South Africa.⁶ The general industrial accord of 1931, called the Laval-Brüning agreement, provided for specific understandings between German and French industrialists, and its results, according to Mrs. Laurence Ballande, were as follows: "The French industrialists were in a position to accompany their trade propositions to their German colleagues with the statement that if the Germans refuse these propositions the French government will establish import quotas by unilateral governmental action. The Germans were very often softened in this way."⁷

The official report of the International Rubber Regulations Committee states: "The attempt of particular commodity producers to protect their own special interests by restrictive measures, rather than by allowing the adjustment of supply to demand to be affected by the slow and cruel play of market forces, was at least as natural and defensible as the attempt of manufacturers to deal with a similar problem of excess production of manufactured goods by new and better tariffs."⁸

German, Italian (and other) members in international cartels often referred to their national restrictions and policies (concerning all kinds of trade and exchange items) and tried to influence the line of cartel action. Thus these national clearing and barter systems had to be respected by international cartels.

2

One of the most frequently discussed questions in connection with international cartels is whether a particular international cartel is an appropriate device to substitute for, or to assist in, the abolition of protective tariffs, or whether the regime of protective tariffs may be generally replaced by international cartels.⁹ In this way international cartels would be elevated to quasi-public mechanisms, and thus become a focus of international trade policies.¹⁰ These ideas imply that either

⁶ Cf. Hexner, *Steel Cartel*, pp. 137, 213 ff.

⁷ Laurence Ballande, *Essai d'étude monographique et statistique sur les ententes économiques internationales* (Paris, 1936), p. 364. (Hereafter cited Ballande, *Ententes*.)

⁸ *History of Rubber Regulation* (Introduction).

⁹ According to J. Anton de Haas, "The fact that American manufacturers did not seek duties upon importations of finished quinine is not to be ascribed to the fact that they did not dare to do so for fear of the cartel but because agreements made with the cartel made such import duties unnecessary."—*International Cartels in the Postwar World*, pp. 36-37.

¹⁰ Several studies of international trade regard this problem as of such importance that they restrict their discussion of international cartels to this problem only.

the "self-government" of particular industries (or all industries in co-operation with each other or with consumer groups) would determine the kind and degree of the international division of labor, or that international cartels would act as general executive agencies for government-determined trade policies. Such regimes would naturally make the position of all kinds of outsiders (including competition by substitutes) extremely precarious and would lead to an internationally sanctioned protection of vested rights to an extent never heard of.¹¹ The repercussions of such regimes upon domestic production, investment, and employment would be obvious. In the judgment of this author, in most industries (with the exception of those which are monopolistic either because of patent rights or secret technological knowledge, or because they are an exclusive source of raw material) no international agreement could be reached on these lines by private entrepreneurs.¹² There is more chance that cartels may be used to implement trade policies agreed upon by governments. How far entrepreneur unions would maintain the chief cartel characteristic of "voluntariness" in exercising these functions depends on the circumstances of the case.

Several authors have predicted that international cartels will automatically replace tariffs. E. Benjamin Andrews wrote in 1888, "We may expect that the dependence of trusts upon tariffs will steadily decrease. Perhaps it is to disappear altogether. The interest hitherto centered in the tariff question will then go over to that of trusts."¹³ The United States Tariff Commission, viewing the influence exercised upon trade relations of the International Steel Cartel, reached the conclusion that "Such complete power renders governmental trade barriers for steel practically superfluous in most European and some non-European countries."¹⁴ Most of the adherents to the International Steel Cartel would have opposed this diagnosis because a "power structure" may appear strong to the outside observer and frail to the inside participant. Participating national groups did not trust suffi-

¹¹ It is obvious that domestic high-cost producers would frequently find good succor within these well-protected trenches. Traditional international cartels (except those based on patents and know-how) have had to adjust their policies to possible or real outside competition, and have had to take into account the possibility of their disintegration. Privileged international trade organizations as those mentioned above would be fairly free from such worries.

¹² This is not to say that if in a region (e.g., Scandinavia, Balkans, Central Europe) tariffs were generally removed cartels could not or would not allocate production. Gottfried Haberler rightly states that in such case international cartels would replace domestic cartels.—*The Theory of International Trade*, p. 331.

¹³ *Quarterly Journal of Economics*, III, p. 152.

¹⁴ *Iron and Steel, Report, Second Series*, Washington, 1938, p. 410.

ciently home protection and similar clauses in cartel agreements, at least not to the extent of giving up protective tariffs. The TNEC published a separate report on "Industrial Concentration and Tariffs" dealing with these questions.¹⁵ Several enthusiasts have regarded international cartels as the only means to eliminate or restrain future tariff barriers. Thus the French statesman Louis Loucheur considered international cartels the "only course" to be followed in solving the problem of custom barriers.¹⁶

Governments, in concluding trade agreements, especially in Europe, often have taken into consideration existing cartel connections. Quotas and other restrictions of cartels were sometimes adjusted to "official" quotas. However, no generalization for the future can be made from these exceptional cases which were related to the specific historic setting of the thirties.

Dumping, i.e., selling abroad under terms more favorable to the buyer than at home, has been more often practiced within international cartels than is generally realized. However, international cartels neither encouraged nor discouraged dumping. These organizations did not care whether a national group covered average or marginal costs or whether an exporter charged higher or lower prices at home.¹⁷ Dumping in the thirties was much more frequently practiced by countries with weak currencies than by nations with free exchange. Often this did not amount to dumping in the traditional sense because the exporter (and his government) valued the foreign exchange gained by exports higher than the official exchange rate. A special study of modern dumping practices in connection with international cartels might prove highly useful.

The interaction between policies of international cartels and government restrictions of trade differ from commodity to commodity, from cartel to cartel. Literature on quantitative trade restrictions¹⁸

¹⁵ *Monograph No. 10.*

¹⁶ *Report and Proceedings of the World Economic Conference*, I, 132-33. See also Achille Loria, "Les cartels internationaux pourront-ils nous amener au libre échange?" *Périodique* 63, Société Belge d'Etudes et d'Expansion, December, 1927.

¹⁷ The Parliamentary Secretary of the Board of Trade answered questions about British steel dumping in the House of Commons March 15, 1939. According to the explanations of Mr. R. H. Cross, "in general higher prices are charged by the British steel makers to shipbuilders in foreign countries." Concerning domestic and export steel prices and dumping problems see Hexner, *Steel Cartel*, pp. 155 ff.

¹⁸ Gottfried Haberler and Martin Hill, *Quantitative Trade Controls*, League of Nations, Geneva, 1943, touch only perfunctorily on the interaction between private and public controls (p. 22). Jacob Viner (*Trade Relations between Free-Market and Controlled Economies*, League of Nations [Geneva, 1943], p. 37), states that "In any case, exchange-control procedures provide added incentives for and encouragements to monopolistic organization even in the absence of official encouragement."

and on international trade does not treat this interaction exhaustively. The form and substance of official trade restrictions may naturally enhance or obstruct private marketing co-operation or it may be altogether neutral in this respect.^{18a} As far as one can predict, the extent of tariffs after the war will depend primarily on general problems of international economic intercourse and on current political psychology¹⁹ (accepting political security as the basic framework of international economic intercourse) and not upon the existence or non-existence of international cartels.

The maintenance of stabilized currencies and equilibrium in the national balances of payments, as contemplated in the Bretton Woods agreements, may require certain adjustments of public and private trade restrictions. Certain arrangements with international public or private market controls may prove useful. Such adjustments would require a special investigation.

^{18a} The interaction between tariffs and the effectiveness of international cartellization may be studied in connection with the marketing situation in heavy rails in the U. S. There were almost no imports of heavy rails to the U. S. despite a very low import duty of \$2.00 per short ton. In the absence of a strong international cartel the import market would probably have been different, although domestic producers of heavy rails are considered the most efficient in the world and domestic prices of rails have been reasonable.

¹⁹ A publication of the National Association of Manufacturers (John Scoville and Noel Sargent, *op. cit.*, p. 150), contains the following about tariffs: "Of course all tariffs which are restrictive tend to reduce the advantages which flow from the international division of labor. But if we are to have recurrent wars, we should not be too dependent on foreign nations. . . ."

CHAPTER VIII

Political Problems

I

THE CO-OPERATION of private entrepreneurs in international markets has, of course, very significant repercussions upon international intercourse in general, and upon the social welfare of many nations. International trade patterns, whether or not entrepreneur unions are legally recognized or tolerated, comprise political problems par excellence. Whether nations desire their industries to participate in international cartels, and if so, under what conditions, belongs, naturally, in the jurisdiction of national politics.

Almost all recent publications on international cartels are politically oriented. Economists with knowledge of politics, in discussing problems of monopolies and cartels, switch more and more frequently to political arguments. Professor Friedrich A. Hayek, in a recent political study, advises statesmen and the man in the street as follows: "Only make the position of the monopolist once more that of the whipping boy of economic policy, and you will be surprised how quickly most of the abler entrepreneurs will rediscover their taste for the bracing air of competition."¹ Authors of modern studies of cartels are implicitly advocates not of private, but of the public interest as they see it. There are no modern treatises on cartels that discuss conditions under which it would be advantageous for the entrepreneur (or for the mythical *homo oeconomicus*) to compete or combine. Even those who more or less approve of private collective marketing controls on international markets approve not because they think such controls advantageous to the entrepreneur, but because they consider them either the best available alternative for the social community or inevitable because of prevailing uncontrollable technological or political circumstances. Virgil Jordan, President of the National Indus-

¹ *The Road to Serfdom*, p. 198

trial Conference Board of New York, said: "Cartel arrangements are the order of the day. . . and they are going to be the main form of organization of international commerce after the war."² Louis Loucheur advocated them as the only device to eliminate national trade barriers;³ Edouard Herriot and Gustav Stresemann regarded them as an important means for the political and economic unification of Europe and as models for international political co-operation.⁴ Professor J. Anton de Haas looks upon international cartels as a useful and effective tool in international economic intercourse. According to him, "There is only one way to bring about international economic co-operation and that is to co-operate. That is exactly what cartels, both in the field of raw materials and in the field of manufactured products, are intended to bring about."⁵ Milo Perkins opines that "Business men of several foreign nations have already decided to conduct a large part of foreign trade after the war through cartels, and it seems certain that their governments will support them. This decision will not only affect every American who does business abroad, but will deeply influence the domestic economy of the United States. This is a fact which there's no getting round."⁶

One might ask whether an exhaustive practical discussion of cartel advantages and cartel techniques, from the point of view of entrepreneur interests, by a courageous devil's advocate would not be instrumental in clarifying political considerations.⁷ However, there is little prospect of the publication of such an unpopular and unfashionable study. Differences of opinion in the works of various authors on cartels mirror solely their conception of public interest. And this volume does not claim to be an exception to the general rule.

For the time being the most important task in discussing the political implications of cartels is to clarify issues and make clear reasoning and political choice easier. In all political cartel discussions there should be a note of caution not to accept at face value generalizations unsupported by comprehensive evidence. Statements containing genuine political facts often are wrapped in strongly generalized

² *New York Herald Tribune*, November 26, 1944, p. 25.

³ *Report and Proceedings of the World Economic Conference* (Geneva, 1927), I, 132-33.

⁴ Edouard Herriot, *The United States of Europe* (London, 1930), pp. 108-09, 121, 146; and *Berliner Tageblatt*, October 1, 1926, No. 463.

⁵ *International Cartels in the Postwar World*, p. 42.

⁶ "Cartels: What Shall We Do About Them?" *Harper's Magazine*, November, 1944, p. 570.

⁷ Lionel Robbins remarked that "It is not certain, even, that restriction inevitably benefits the restrictors."—*The Economic Basis of Class Conflict*, p. 31.

propositions conveying more comprehensive meaning than is warranted by the facts. The following example may serve as an illustration. The representatives of the business world of India recently accused international cartels of responsibility for blocking the industrialization of India.⁸ Everyone familiar with the political and economic issues of India knows that the slow industrialization of India is due to the interaction of many intricate factors. Certain investors and exporting producers, in accordance with their narrow-minded conceptions about international economic intercourse, have regarded India (and many other countries) in years past as a raw-material-producing area, and a permanent market for imported industrial commodities. The role cartels have played in those policies, if any, would be an interesting subject for detailed investigation. What is misleading to the general reader is the focusing of attention and responsibility on one single factor without qualifying that indictment by pointing to the many more important underlying causes and motivations. Generalizations of this type result in making cartels principally responsible for tragical political mistakes of former decades, particularly for those preceding the Second World War.⁹ At the opposite extreme are expectations from entrepreneur co-operation, which, if realized, would amount almost to magic. No less authority than a British Prime Minister expected from the reorganization of the British steel industry and its new international connections miraculous results. "I make bold to stay," said Stanley Baldwin in 1935, "that in four or five years the [British] steel industry will be second to no steel industry in the whole world."¹⁰ The purpose of these examples is simply to call the reader's attention to the strange methods by which entrepreneur co-operation is frequently evaluated in political discussions.

Suggestions for using a comprehensive network of international cartels as a skeleton on which the whole world economy could be

⁸ Cf. "Indian Delegates to International Business Conference Hit Cartels," *The New York Times*, November 14, 1944, p. 29. According to Dean Wilber Katz of the Law School of the University of Chicago, "The quite understandable desire on the part of countries like China to have industrial development in them faces the opposition of cartels, which have as one of their major purposes the prevention of the development of competing units of the industry in countries where that is not present."—"Are Cartels a Menace to World Peace?" *The University of Chicago Round Table*, January 28, 1945, p. 16.

⁹ Cf. Heinrich Kronstein, "European Cartels," *The Commonwealth*, June 4, 1943, p. 170. The responsibility of international cartels for the Munich Agreement is charged by Mr. Thurman Arnold. See *The New York Times*, June 6, 1942, p. 21.

¹⁰ *The Times* (London), July 1, 1935, p. 10.

built, and more modest proposals intended to base the economic intercourse of two nations on a set of agreements between private entrepreneurs, have received wide publicity, but, fortunately, also sober criticism. All of these suggestions have arisen in exceptional economic circumstances and all of them have had political motivations whose discussion would far transcend the scope of this volume. The Brüning-Laval Accord of 1931 agreed on an Economic Committee which was to establish "industrial ententes" to co-ordinate production and trade between German and French industries. About fifty such "ententes" were established. However, only one of them, that for electric material, developed into a cartel. The rest were solely concerned with the restriction of German imports to France and these disintegrated after a short while.¹¹ In the London Monetary and Economic Conference the consideration of a large set of private industrial agreements, safeguarding the interests of producers and consumers alike, was suggested by Mr. Neville Chamberlain.¹² No further step was undertaken in this matter.

The Düsseldorf Agreement, concluded March 16, 1939, the day after the invasion of Prague, by the central trade associations of British and German industries, was intended to reorganize world trade on the basis of a comprehensive set of marketing associations of private entrepreneurs. It was widely discussed and severely criticized in British and foreign circles. The British Prime Minister frankly admitted that the accord was prepared and concluded under government auspices.¹³ The Düsseldorf Agreement itself was only a framework of basic principles under which the particular industries were expected to negotiate cartel agreements. According to the explanations of the responsible cabinet member, Mr. Oliver Stanley, "The agreement includes among its objects the promotion of negotiations between individual industries, but it does not include any provision relating specifically to any particular industry. This agreement, of course, has no operative effect by itself, but is meant as a guide to the negotiations between individual

¹¹ Cf. Ballande, *Ententes*, pp. 364-65.

¹² See the *Journal of the Monetary and Economic Conference* (London, June 15, 1933), No. 5, p. 25.

¹³ Mr. Neville Chamberlain, the Prime Minister of Great Britain, announced March 15, 1939, in the House of Commons that, although it was intended that the President of the Board of Trade pay a visit to Berlin in connection with "certain discussions which are now proceeding between the representatives of German and British industries," this visit has been postponed because "the present moment would be inappropriate." However, according to Mr. Chamberlain, "These discussions are still proceeding, and, I believe, are proceeding in a satisfactory manner." *House of Commons Debates*, March 15, 1938, col. 438.

industries, which were intended to follow."¹⁴ Mr. Stanley, answering sharp objections to the effect that this arrangement may violate American interests and friendship, assured the House of Commons "that neither was this agreement intended to be, nor would it be, in conflict with the interests of American industry."¹⁵ On March 28, 1939, the president of the Board of Trade declared in the House of Commons that he had advised the Federation of British Industries "that while there can be no doubt regarding the value of the preliminary work they have accomplished, recent political developments have created a situation which, while it lasts, has made further progress impossible."¹⁶ It is highly questionable whether the Düsseldorf accord would have led to notable results even if the subsequent political developments had not increased the political tension between the United Kingdom and Germany.

The Düsseldorf Agreement is reprinted in Appendix III of this volume. It may be regarded as a document of historic significance because it truly evidences the confused political and economic thinking of governments and entrepreneurs in the fateful appeasement period. British soberness was excellently documented in the courage and intellectual honesty with which many members of the House of Commons and *The Economist* censured this "economic" approach to hazy political and economic objectives.¹⁷

An international organization in the form of a "World Trade Alliance" for regulating the distribution of major export products of all countries was advanced in May, 1943, by Sir Edgar R. Jones.¹⁸ According to this plan a Central World Development Commission, composed of government representatives, would supervise World Export Product Committees, set up for each product and consisting of producing and consuming countries. A Central World Clearing Bureau would co-ordinate the activities of the product committee. The plan is opposed to restrictive agreements and would require full publicity on co-operation of private entrepreneurs. This co-operation would be aimed at a rapid enlargement of production and trade. Sir E. R. Jones's plan does not indicate how conflicting export interests could be reconciled. Probably he assumes that governments' co-operation will result in reconciliation of interests.

There is a certain parallelism between political events of 1928 to 1939

¹⁴ *Ibid.*, March 21, 1939, col. 1105.

¹⁵ *Ibid.*, col. 1107.

¹⁶ *Ibid.*, March 28, 1939, col. 1864.

¹⁷ "An Obnoxious Agreement," *The Economist*, March 25, 1939, p. 607.

¹⁸ *World Trade Alliance*, London, 1943 (Pamphlet), *passim*.

and landmarks in the development of international cartels. The political tension following the First World War was considerably moderated by Germany's entering the League of Nations in September, 1926. It is not without significance that the first international steel pact was signed the same month and that several other international marketing agreements were prepared at that time. In 1933, when the London Monetary and Economic Conference was expected to arrange for smooth economic intercourse among nations, several international cartel agreements were re-established.

During the decade following the First World War, and up to the demise of the appeasement policy, a limited number of politicians and economists on both sides of the Atlantic assumed that Europe as an entity on the one hand, and America on the other, were or might become rivals in international politics, including international economics. They advocated aggressive and defensive measures on their own continents in order to gain world markets for themselves. The advocates of the concept Pan-Europa, in particular proponents of the idea of dividing the world into large spheres of influence, detected indications of strong economic competition between industrial groups of both continents. National and international cartellization was often considered as the institutional blueprint on which either economic collaboration throughout the world, or European internal co-operation in case of economic conflict with America, could be based.

In an often-quoted speech at the World Economic Conference in 1927, the French politician Louis Loucheur pointed to the European-American rivalry as one of the reasons for the necessity of establishing European international cartels.¹⁹ Another famous French politician, Mr. Edouard Herriot, anticipating (in 1930) rivalry between Europe and the United States on the export market, retarded only by the extraordinary capacity of the American market for consumption, stated that "in such a competition a disunited Europe would be defeated in advance."²⁰ Opinions of Americans may also be cited. Commercial Attaché Cooper found that "the conclusion of the European steel

¹⁹ *Report and Proceedings of the World Economic Conference* (Geneva, 1927), pp. 132-33.

²⁰ *The United States of Europe*, pp. 108-109, 121, 146. Similar statements may be found in Lucien Romier, *Qui sera le maître? Europe ou Amérique?* (Paris, Hachette, 1927), *passim*. Sir Arthur Salter notes that the problem of "how to increase world prosperity" had gradually taken the form in the public mind of "how can Europe compete against America." Although this conception was rather confused it "usually assumes an anti-American form." Sir Arthur, designating these views as regrettable and admitting that American progress might injure certain special European industries, emphasized that "it does not diminish European prosperity *absolutely*: it increases it."

agreement has been hailed by some of its sponsors as the greatest recent economic development and a first step toward the formation of an 'Economic United States of Europe.'"²¹ The Director of the Bureau of Foreign and Domestic Commerce, Dr. Julius Klein, assumed that European industries were "striving rather blindly toward comparable advantages" with those enjoyed by the American industry because of its large domestic market. In the opinion of Dr. Klein, "the development of the European cartel situation has, of course, roused universal concern in all of the affected industries in this country."²² The general interest in the international cartel movement prompted another high official of the Department of Commerce, Mr. Louis Domeratzky, to indicate the attitude of the average American businessman toward international cartels. The businessman believes, according to Mr. Domeratzky, that "such organizations are aimed primarily at the American producers and consumers, and represent the alleged combination of Europe against the economic hegemony of the United States."²³

A serious investigation of international markets and more enlightened views upon international political co-operation of nations could have persuaded statesmen and the man in the street of the senselessness of intercontinental rivalry. That European cartels were not or-

His statement that "... the United States of Europe must be a political reality or it cannot be an economic one," preceded the statement regarding the need for a fundamental general subordination of the economic to the political problem included in Briand's *Memorandum on European Federal Union*. He goes on to say that "... the main competition of every country in Europe is not with America but with other European countries: it was this competition and not American which was the origin of the tariffs; and if American competition and tariffs are an additional obstacle to their removal, as they are, they are not the only one." Sir Arthur made it clear that "the object is to encourage not cartels and monopolies, but security of equal opportunity."—*The United States of Europe*, pp. 89-90, 92, 99. As a matter of fact, all European governments which answered the Briand *Memorandum* were in agreement with the basic idea of a closer co-operation, but most of them disagreed about the methods of attaining co-operation. A great many governments, including the British, expressed their opposition to the idea of inter-continental rivalries. A summary of the Briand *Memorandum* and the answers of the European governments to it are included in the *Bulletin of International News*, Royal Institute of International Affairs, September 11, 1930, and in *International Conciliation*, Special Bulletin (June, 1930), and No. 265 (December, 1930).

²¹ Bureau of Foreign and Domestic Commerce, *Trade Information Bulletin*, No. 484, p. 41.

²² Subcommittee of House Committee on Appropriations, *Appropriations, Department of Commerce*, 1927, pp. 219 ff.; 1928, p. 305; and 1929, pp. 363 ff.

²³ Bureau of Foreign and Domestic Commerce, "The International Steel Cartel Movement," *Trade Information Bulletin* No. 556, 1928, p. 2. Similar ideas may be found in an article by A. Cressy Morrison, "The League of Nations, cartels and the tariff," reprinted in the *Congressional Record*, May 8, 1928, pp. 8483 ff.

ganized against America, but that they eagerly sought co-operation with producers and exporters on the other side of the Atlantic will be made clear to the reader of the case studies in this volume. An all-comprehensive international cartel organization as a remedy against complex maladjustment in the social, political, and economic structure of the world is often advocated by those who do not go into the reasons for maladjustment.

2

One of the most significant problems in cartel discussions is that of the possible abuse of economic power concentrated in private hands. Fears and indictments on this account have been expressed all over the world, whether with reference to private power concentrated in the hands of one single big entrepreneur or in an agglomeration of several enterprises. The objection that an efficient government may check all kinds of economic and political power wielded by private persons is refuted on the one hand by pointing to the split ego of parliaments and political parties, and on the other hand by referring to the overwhelming influence of "private governments" of capitalists hiding behind the screen of official government. In discussing the rapid growth of modern industries, a British scholar and editor of an outstanding newspaper recently asserted in all seriousness that "in the United States 'big business' acquired almost undisputed control of the machinery of government."²⁴ Another well-known scholar attributed the recent growth of monopoly to a deliberate conspiracy of capital and labor. "The recent growth of monopoly," says Professor F. A. Hayek, "is largely the result of a deliberate collaboration of organized capital and organized labor where the privileged groups of labor share in the monopoly profits at the expense of the community and particularly at the expense of the poorest, those employed in the less well-organized industries and the unemployed."²⁵ The reader will not fail to recognize the dangers of such generalizations to public opinion in a democracy. Issues of economic power are often discussed according to the "either-or" pattern of political reasoning without comprehension of the consequences of the black and white fallacy in political considerations. In many formulations there are only two clear-cut alternatives, either to accept the accidental results of the play of impersonal forces on the market, or to face fascism. As professor Friedrich A. Hayek put it, "There is no other possibility than either the order governed by the impersonal discipline of the market or that

²⁴ Edward Hallett Carr, *Conditions of Peace* (New York, 1942), p. 84.

²⁵ F. A. Hayek, *op. cit.*, p. 199.

directed by the will of a few individuals."²⁶ There is little doubt that Professor Hayek uses these sharp contrasts to make his argument against planning more explicit. However, thousands of readers take such propositions literally. In emergency and wartime, complaints about the abuse of economic power concentrated in private hands, and conversely about the regulation of business by the government, are presented more dramatically than in peacetime.²⁷

One of the most emphatic indictments against economic power concentrated in private hands has come from the highest authority of the Catholic Church. The Encyclical of Pope Pius XI, *Quadragesimo Anno*, speaks of despotic economic dictatorship (*despoticum potentatum oeconomicum*) "consolidated in the hands of a few, who often are not owners but only the Trustees and managing directors of invested funds which they administer according to their own arbitrary will and pleasure." According to the Encyclical, "This concentration of power and might, the characteristic mark, as it were, of contemporary economic life, is the fruit that the unlimited freedom of struggle among competitors has of its own produced. . . . Free competition has destroyed itself; economic dictatorship has supplanted the free market; unbridled ambition for power has likewise succeeded greed for gain; all economic life has become tragically hard, inexorable, and cruel."²⁸

From a mere methodological point of view one should divide the problems of the possible abuse of economic power into two classes. Economic power can be longed for and abused merely to increase private profits. Or it may be desired as a means of attaining political objectives on the national or international scale. Both on the level

²⁶ *Ibid.*, p. 199.

²⁷ According to the opinion of Mr. Donald C. Blaisdell, published in *TNEC in Monograph 26*, pp. 172-73, "Speaking bluntly, the Government and the public are 'over a barrel' when it comes to dealing with business in time of war or other crises. Business refuses to work, except on terms which it dictates. . . . The experience of the World War, now apparently being repeated, indicates that business will use this control only if it is 'paid properly.' In effect this is blackmail, not too fully disguised." Mr. Tom M. Girdler, Chairman of the Board of Republic Steel Corporation, in his autobiography describes the United States Government as follows: ". . . for almost ten years government in the United States in various ways encouraged idleness among those of our people who can least afford to be idle. Right now, in 1943, the administration has been doing its utmost, it seems to me, to encourage idleness at the top and for no better reason than that this would be pleasing to people at the bottom." According to the same author the Department of Justice and the Department of Labor did everything in this time of emergency "to kick and choke his company to death."—*Boot Straps* (New York, 1943), pp. 214, 457-58.

²⁸ Quoted from Chapters 106-109 of *Quadragesimo Anno*, translated by Joseph M. Corrigan.—*Two Basic Encyclicals* (New York, 1943), pp. 157-59.

of national and international politics these two purposes are sometimes discernible. There is little doubt, for instance, that in France the *Comité des Forges*, and in Germany certain industrial circles, supported reactionary national policies not primarily with a view to increasing their entrepreneurial profits. One may ask whether cartel-inclined entrepreneurs before the Second World War had a common political objective which influenced them in the establishment and operation of international cartels? Or, one may inquire whether there is at least a potential danger that marketing unions of private entrepreneurs (belonging to several nations) could formulate a common political objective serving the interests of the social "class" to which the entrepreneurs belong? Have the national loyalties of *cartellized* entrepreneurs been superseded by loyalties to other political value schemes? These and similar questions have been frequently answered in the affirmative. One example may illustrate this point. A vice-president of the Belgian Senate, a recipient of the Nobel prize for distinguished achievement in promoting international peace, prefaced a book which discussed the co-operation of international business with the following words: "A puissant bellicose triumvirate consisting of industry, finance, and the press, in effect, dominates the world." He proceeded to explain that these three groups compose an international family closely connected by blood and business relationships similar to the interrelationships of traditional dynasties. According to the Belgian senator, these interests constitute a gigantic entente, appearing in most diversified forms, and destined to provoke plethoric orders of armaments for the massacre of human beings, their main purpose being to make their governments order armaments and instruments of death and destruction at usurious prices. In order to win public opinion in all countries the triumvirate administers the opinion of citizens persuading them that their defense is conditioned by large-scale armaments.²⁹ According to Professor William Yandell Elliott, "Fascism, all over Europe and in its nascent state in Mosley's English blackshirts, is subsidized by imperialistic and capitalistic reaction, which has been thoroughly frightened by democratic Socialism. . . . It is effectively controlled by the banking interests and the big industrialists to whom it grants special favors and control over the state's finances."³⁰ Other accusations are that big industries, though be-

²⁹ Henri Lafontaine, in Louis Launay and Jean Sennac, *Les Relations Internationales des Industries de Guerre* (Paris, 1932), Preface.

³⁰ *The Need for Constitutional Reform* (New York, 1935), pp. 76-77. See also Hans Behrend's discussion of "British high finance" and its international connections in *Die Neue Weltbühne* (Zürich and London, June 15, 1939). Lord Geddes, attacked

longing to countries at war with each other, co-operate in order to increase their war profits. For example, German and French industries were accused of co-operating during the First and Second World War through mutual deliveries.⁸¹ Serious attention is never given in such accusations to whether the commercial intercourse in question was endorsed by the respective governments, and if so, why. It is easily understood why the Earl of Dudley exclaimed with great emphasis in the House of Lords on March 21, 1945: "I am rather tired of being alleged to be a dishonorable and dishonest man and a crook in having been associated with the international steel cartel, and the sooner the government makes a full inquiry into these activities the better I shall be pleased."^{81a}

More moderate criticisms do not indict entrepreneurs and their market organizations with deliberate treason. They regard them as politically-blind victims abused in economic intercourse by the enemy for his purposes. An official statement about German preparations of the present war says that "the enemy was waging war, and did his work well, decoying important American companies into agreements the purpose of which they did not sense."⁸² According to Mr. Wendell Berge, cartels were not only systematically undermining the Good Neighbor policy of the United States but unwittingly supporting German espionage in South America.⁸³ Professor Edward S. Mason, discussing German espionage activities in South America, put it thus: "It is hard to see, however, that these activities raise questions peculiar to cartels. Foreign affiliates and foreign agencies serve the same purpose."⁸⁴

in the House of Lords because he has been on the board of large industries participating in world cartels, answered with great heat: "I have been held up and pilloried in some of the newspapers . . . for having worked with Fascists and Nazis and supplied them. . . . Nothing was hidden from the British Government, and as responsible men the directors of the companies would not have gone against the wishes of the British Government. . . . We were the first people to put the blockade on, long before the British Government did."—Cf. *The Daily Mail* (London), March 22, 1945, p. 4.

⁸¹ See Hexner, *Steel Cartel*, p. 233.

^{81a} Cf. *The Daily Mail* (London), March 22, 1945, p. 4.

⁸² *Report to the Nation*, published by the Office of Facts and Figures, 1942, p. 22.

⁸³ *Cartels*, p. 12. According to Thurman Arnold and J. Sterling Livingston, "American business houses, in conspiracy among themselves and in alliance with foreign commercial interests, had suppressed the production of critical materials, deprived the Allies of weapons of war, and unwittingly divulged military secrets and vital production data to foreign governments. . . . Agreements between American and foreign concerns are startling, their implications obvious and their damage to our war effort is serious.—"Antitrust Policy and Full Production," *Harvard Business Review* (Spring, 1942), pp. 265 and 269.

⁸⁴ "The Future of International Cartels," *Foreign Affairs*, July 1, 1944, p. 611.

Industrialists before and after the beginning of the Second World War frequently emphasized their use of economic power to attain domestically recognized, international political objectives. Mr. Tom M. Girdler claimed that "Since Dunkirk, civilization has been saved primarily by the industrial corporations of the United States."³⁵ Viscount Greenwood declared emphatically a few months before the outbreak of the Second World War to his approving audience: "The representatives of the steel industries and, indeed, of all other industries from all parts of the world can sit around the common table, and without raising their voices come to quick decisions of national and international importance affecting the lives of millions of men throughout the world, but it is an odd thing and a sad fact that the representatives of governments cannot sit around a common table but live in an atmosphere of shouting and suspicion that interferes with the normal, healthful economic development of the world for which we stand above all else."³⁶

In the opinion of this writer there is no clear evidence that in democracies the proportion of traitors among entrepreneurs, cartellized or not cartellized, is greater or smaller than among other social groups. However, it would be misleading to attribute equal significance to the treachery or quisling conduct of an important business executive on the one hand and of a subordinate official or a school teacher on the other. The wielding of great economic power carries proportionate political responsibility. Apart from the fact that the political horizon of important businessmen is (or at least should be) much wider than that of the average man in the street, the damage (or danger) caused by the treacherous action of business executives may frequently be irreparable. And in addition, because of the fascination often felt by the weak for the strong, the fascism, quislingism, or other political vices of business executives may infect the minds of people in subordinate positions. The accusation that entrepreneurial groups in general are deliberately or inherently inciting war has often been refuted.³⁷ In international cartels democratic business executives have pursued their private business interests, and they have done this in the light of their national interests as they conceived them. Large sections of what

³⁵ *Boot Straps*, p. 2.

³⁶ *Journal of the Iron and Steel Institute*, CXXXIX (London, 1939), 29P.

³⁷ Cf. Jacob Viner, "Peace as an Economic Problem" in George B. Huszar (ed.), *New Perspectives on Peace* (Chicago, 1944), pp. 85 ff. Lionel Robbins, *The Economic Causes of War* (London, 1939), *passim*; Walter Sulzbach, "Capitalist Warmongers" *A Modern Superstition* (Chicago, 1942), *passim*.

is called "big business" have supported and adhered to conservative political groups all over the world, and have accepted the political tenets of conservatism in their business policies as well. Although there is no reason to shield the shortsightedness of these conservative groups from criticism, an explanation should be made if cartellized entrepreneurs are singled out for *special* attack. There is no evidence, according to the knowledge of this author, that entrepreneurs belonging to *different* nations and co-operating in a large international cartel, have pursued *common political* objectives. In the light of what has happened since September, 1939, it is clear that certain industrialists in democracies unwittingly supported the enemy in their business transactions. However, with the exception of a few cases, there is no evidence that their action was contrary to the general business ethics existing at that time. That this business ethics urgently needs revision and needs to be made more explicit seems beyond question.

The problem of controlling economic power concentrated in private hands is one of the vexing perplexities of modern democracies.³⁸ The case of international cartels, and of national groups connected with international cartels, is merely one part of the larger problem. The influencing of democratic legislative bodies by all kinds of monopolistic groups has accompanied the development of modern democracies. Adam Smith attacked with particular zeal the political pressure of manufacturers. He contended with exaggerated pessimism that "To expect, indeed, that the freedom of trade should ever be entirely restored in Great Britain is as absurd as to expect that an Oceana or Utopia should ever be established in it." This situation he attributed to the political pressure of industrial monopolists. In Smith's opinion:

The member of parliament who supports every proposal for strengthening this monopoly is sure to acquire not only the reputation of understanding trade, but great popularity and influence with an order of men whose members and wealth render them of great importance. If he opposes them, on the contrary, and still more if he has authority enough to be able to thwart them, neither the most acknowledged probity, nor the highest rank, nor the greatest public services can protect him from the most infamous abuse and detraction, from personal insults, nor sometimes from real danger, arising from insolent outrage of furious and disappointed monopolists.³⁹

³⁸ Cf. B. U. Ratchford, "Certain Bases of Power Politics," *Southern Economic Journal*, July, 1944, pp. 20 ff.

³⁹ *The Wealth of Nations*, Book IV, ii.

Although the extent, organization, and operation of pressure groups has considerably increased since the publication of *The Wealth of Nations*, private and public institutions courageously dealing with the problem of pressure groups have grown also. There has developed as well a vigorous rivalry among different pressure groups. It would be most dangerous to underestimate this problem.

There is no specific recipe against the abuse of economic power by international cartels.^{39a} Entrepreneur co-operation may be used to discriminate in trade terms, to influence investments, and for many socially undesirable purposes. However, the wielding of such power depends on whether different national groups are willing to unite for these purposes, whether outside competition exists, and whether the establishment of domestic industries is easy or difficult. An efficient government has many means of defense against abuses of this sort. The comprehensive, public presentation of facts may clarify thinking and political volition, despite pressure groups. There is little probability that international pressure groups may influence public agencies if there is sufficient vigilance on the part of national governments.

The specific political problems which arose in connection with German political penetration through all kinds of economic mechanisms, including international cartels, are not discussed here. That many German entrepreneurs, cartellized and not cartellized, even those that did not join the Nazi Party, did not resist using their business transactions for Nazi penetration methods is beyond doubt. Their responsibility for Nazi vandalism is well established.^{39b}

If individual enterprise continues, if entrepreneurs continue to operate in markets, they will continue to wield economic power. This power will continue to have political and social repercussions. To make the social responsibility of entrepreneurs explicit is an unavoidable requirement of public interest.

^{39a} Lord Woolton, British Minister of Reconstruction, considered the establishment of a "Court on Monopolies" in a heated discussion on cartels in the House of Lords March 21, 1945. The "court" would investigate the working of combinations and monopolies upon the request of citizens. Cf. *The Daily Mail* (London), March 22, 1945, p. 4.

^{39b} A recent announcement of the U. S. State Department contains the following: "Nazi party members, German industrialists, and the German military, realizing that victory can no longer be attained, are now developing post-war commercial projects, are endeavoring to renew and cement friendships in foreign commercial circles, and are planning for renewals of pre-war cartel agreements." See *The New York Times*, March 31, 1945, p. 9.

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The political atmosphere created by the attitude of international agencies, national governments, and public opinion toward international cartels is of great significance for the existence and working of the latter. Of course, the public does not indulge in terminological controversies about the cartel concept. Thus it may happen that antipathies against such different things as big business, combinations of the corporate type, large financial interests, the patent system, the trade association movement, intergovernmental market controls, government selling agencies, are all included in adverse opinions about cartels. The well-justified public wrath against German penetration methods is often turned against the business methods of cartels in general. In fact, the real vices of international cartels may thus become obscured. Sometimes it is suggested that the elimination of "the cartel system" in itself would contribute to expansion of international production, full employment, equitable distribution of the social product, peaceful economic intercourse, low prices for primary necessities of life, and so on.

Many of those who believe in the future of a vigorous individual enterprise system are disturbed by the permanent and monotonous repetition of the desire to re-establish a free enterprise system. One author justifiably asks: "Why is it that no business spokesman can discuss any problem of the postwar world without first bending the knee and muttering a ritual containing his avowal of faith in private enterprise . . . ?"⁴⁰ Milo Perkins says: "We love to tell each other with a good deal of righteousness that free competition is the 'American Way.' But in the marketplace there is a wide gap between our oratory and our actions."⁴¹ And Professor Edward S. Mason rightly observes, "We are presented . . . with the spectacle of the representatives of industries in which concentration is very marked, asserting—and believing—that the prices of their products are determined by the impersonal forces of supply and demand."⁴²

International public agencies in the last few years have not dealt with the merits of the cartel problem. Side issues of international marketing controls have been touched upon by many international economic and social conferences (Hot Springs, Atlantic City, Bretton Woods, Chicago). In the last Quebec conference between the Presi-

⁴⁰ "Saving Free Enterprise," *The Nation*, January 10, 1944, p. 41.

⁴¹ *Ibid.*, p. 574.

⁴² "Price Policies and Full Employment," in C. J. Friedrich and E. S. Mason (eds.), *Public Policy* (Cambridge, 1940), p. 30.

dent of the United States and the British Prime Minister the regulation of the general cartel problem and the elimination of German "cartels" was decided upon. The League of Nations economic division in Princeton, N. J., and the International Labor Office⁴³ are preparing studies and collecting further material on this topic.

The international Chamber of Commerce deserves credit for publishing significant material about international cartels. However, the Chamber has not succeeded in formulating comprehensive principles on this subject. When the Second World War broke out this agency was just about to start discussions on this topic on a new basis. The International Business Conference which was in session in Rye, N. Y., between November 10-18, 1944, discussed international cartels in detail. Its cartel resolution is included as Appendix VII to this book. The Conference unanimously endorsed a report calling for immediate inter-governmental study of public and private business agreements which deal with production, marketing, prices, and patents. The study, which is expected to be made in association with business interests, should result in the establishment of "rules and standards to govern such agreements in international trade."⁴⁴

It may be useful to review briefly the present attitude of a few countries with reference to international cartels. Somewhat paradoxically, Nazi Germany repudiated all kinds of cartels in the traditional sense. Not only German sources,⁴⁵ but neutral observers often spoke of "a dusk of cartels" in Germany.⁴⁶ The Germans rightly judge that the true cartel (domestic or international) is not dominated by the political volition of any government. It does not serve political purposes. That is why it ceased to be a workable instrument of trade in Germany. With an arrogance seldom surpassed one of the leading officials of Nazi Germany accused the American and British Governments of using "big cartels" to obstruct the establishment of a "United Europe, real sovereign, and master of its destiny."⁴⁷

Up to the First World War there was no great difference between

⁴³ In addition to the quoted material, see Condliffe and Stevenson, *The Common Interest in International Economic Organization*.

⁴⁴ The United States delegation was credited by Sir Peter Bennett, Director of ICI, of "dragging" delicate questions into the open. Cf. *The New York Times*, November 21, 1944, p. 29.

⁴⁵ See e.g., Dr. Leonhard Miksch, "Von der Reichsstelle zum Lenkungsbereich," *Wirtschaftskurve* (Frankfurt a.M.), No. IV, 1942, pp. 205-18; and by the same author, "Was wird aus den Kartellen," *ibid.*, No. I, 1943, pp. 27-41.

⁴⁶ "Die 'Kartelltdämmerung' in Deutschland," *Neue Zürcher Zeitung*, No. 1044, July 4, 1943.

⁴⁷ *The Nation*, October 3, 1942, p. 298.

the legal and political position of cartels in Germany and in other European Continental countries.⁴⁸ Restraints of trade were sharply criticized also in the German Reichstag and in other public and private bodies.⁴⁹ The leaders of German cartellized industries frequently complained bitterly that public opinion did not have the proper understanding of big German industries and cartels. Mr. Kirdorf, one of the founders of the modern steel and coal cartels, criticized in a most irritated manner the bias displayed by the German public and by many economists against his conceptions of industrial organization.⁵⁰ Cartel agreements were often attacked in German courts as violating the principle of "good morals" and as exercising undue pressure upon competitors and consumers. However, German courts, like other European judicial bodies, did not regard marketing unions of entrepreneurs, *qua cartels*, as illegal. After the First World War a German Emergency Decree of 1923 established rules restricting to a certain extent the business activities of cartels and making them subject to governmental supervision and to a special Cartel Court. The issuance of the Emergency Decree was the result of strong attacks upon cartels in legislative chambers and of sharp criticism of monopolies in connection with abuses related to the German inflation. Co-operatives and consumer associations were among the decisive factors which induced the German Government to curb "private agencies exercising economic power." The result of the Emergency Decree was a certain bureaucratization of cartels without seriously restricting their activities. German parliamentary history is full of attacks against domestic and international cartels from 1923 up to the accession of Hitler, in January, 1933. However, the prevailing public opinion regarded cartels under supervision of government as a legitimate pattern of economic development. In the pre-Hitler era government departments did not object to cartels as such, although the suppression of outsiders sometimes

⁴⁸ Lionel Robbins is of the opinion that in Germany "the law regarding restraint of trade has been much less severe than in Great Britain. Long before the Great War, rules had been established in Germany which made cartel agreements enforceable in the courts; there can be little doubt that this was one of the most important reasons why monopolistic conditions were so much more prevalent in Germany than elsewhere. The state definitely favored combination; and the law was developed accordingly."—*The Economic Basis of Class Conflict*, pp. 69-70. There did not exist in Germany before the First World War any written law which made cartel agreements enforceable. However, courts regarded the general rules applying to contracts as pertaining to cartel agreements also.

⁴⁹ Cf. Oswald Lehnich, *Kartelle und Staat* (Berlin, 1928), pp. 87 ff.

⁵⁰ Cf. *Schriften des Vereins für Sozialpolitik*, Vol. 116 (1905), pp. 272 ff. See also p. 4 of this volume on similar complaints of Carl Duisberg, Chairman of the Board of I.G.

aroused public opposition, and price policies of cartels were frequently under attack. In September, 1931, the German Government reinforced its measures concerning supervision of cartellized and non-cartellized prices. The Federation of German Industries sent thereupon a sharp protest to the Chancellor "urging the maintenance of the system of private trading and the abandonment of Government interference with industry."⁵¹ After the accession of Hitler domestic cartels and German national groups in international cartels gradually or suddenly lost their cartel-character in the traditional sense. They became dominated by the government, though often serving private profit as well. The compulsory-union system squeezed outsiders into marketing control agencies. Trade terms were either subject to government approval or they were determined outright by the government. That many cartellized and non-cartellized entrepreneurs served the political objectives of the Hitler Government is clear. Fritz Thyssen's autobiography conveys some idea of the ideology of German business executives.⁵²

There is no official statement about the attitude of the Soviet Union toward international cartels. Lenin was strongly opposed to them and regarded all kinds of international market controls as servants of capitalistic imperialism.⁵³ However, Soviet trade agencies co-operated with several international cartels before the Second World War. Recently a Soviet magazine, published by the Soviet trade

⁵¹ Cf. Arnold J. Toynbee, *Survey of International Affairs, 1931* (London, 1932), p. 130.

⁵² Fritz Thyssen, *I Paid Hitler* (New York, 1941), *passim*.

⁵³ V. I. Lenin's ideas on international cartels are rather comprehensively stated in his study, *Imperialism, The Highest Stage of Capitalism*, London, 1934. According to Lenin, "Monopoly is the transition from capitalism to a higher order. If it were necessary to give the briefest possible definition of imperialism, we should have to say that imperialism is the monopoly stage of capitalism. . . . Imperialism is capitalism in that stage of development in which the domination of monopolies and finance capital has taken shape; in which the export of capital has acquired pronounced importance; in which the division of the world by the international trusts has begun, and in which the partition of all the territory of the earth by the greatest capitalist countries has been completed" (pp. 80, 81). Lenin most sharply attacked the cartel conception of "certain bourgeois writers," including certain Social Democrats, especially those of Karl Kautsky and Rudolf Hilferding. He repudiated "the opinion that international cartels are one of the most striking expressions of the internationalization of capital and therefore offer a possible hope of peace among nations under capitalism. In theory this opinion is absolutely absurd, while in practice it is a sophism and a dishonest defense of the worst opportunism. International cartels show to what capitalist monopolies have now grown up and the *wherefore* of the struggle between the capitalist groups" (p. 68). Kenneth Leslie predicts in an editorial of *The Protestant* (February, 1945, pp. 1-3), an "emulation" between internationally cartellized capitalist economies on the one hand and the Socialist economy of the Soviet Union on the other.

unions, printed a sharp attack on American and British national cartels. The article is, apparently, to a certain extent based on the material published by the Bone, Kilgore, and Truman Committees of the American Senate.⁵⁴

Little is known about French official opinion on this subject. General de Gaulle refused "to contemplate the rebuilding of industrial trusts that dominated pre-war France." He recognized the necessity of fostering private initiative in economic intercourse.⁵⁵

It is unnecessary to elaborate here in detail upon the political attitude of the United States Government toward the problem of international cartels. Both Presidents Roosevelt and Truman have often expressed their sharp disapproval of the practices of international cartels. They did not regard them as a suitable instrument for the development of world trade in the postwar world. An intergovernmental committee consisting of the representatives of the federal agencies concerned has done comprehensive research on this problem and has sent its report to the President of the United States. The report has not yet been published.⁵⁶ Several committees of the American Congress have expressed complete disapproval of the cartel pattern for future economic intercourse. When the United States Congress extended the authority of the President under Section 350 of the Tariff Act, it expressed full opposition toward international cartels.⁵⁷ The Final Report of the Kilgore Subcommittee of the Military Committee of the American Senate expressed in the sharpest possible terms warnings against any forms of international private marketing controls in the future. According to the Subcommittee, "Only agreements among national governments provide the framework for genuine international co-operation."⁵⁸ It is hardly necessary to repeat here that the Justice Department of the United States and its Antitrust Division regard all cartel activities as legally prohibited and politically dangerous.

Most of the official representatives of American trade associations, including the U. S. Chamber of Commerce and the National Associa-

⁵⁴ K. Gofman, "Mezhdunarodnye Monopolii i Voina" (International Monopolies and the War), in *Voina Rabochii Klass (War and the Working Classes)*, No. 7 (April 1, 1944), pp. 6-10.

⁵⁵ Cf. *The Nation*, October 7, 1944, p. 394.

⁵⁶ Cf. *The New York Times*, September 23, 1944, p. 11.

⁵⁷ Cf. Joint Resolution, Approved June 7, 1943, *Public Law*, 66, 78 Congress, 1st Session.

⁵⁸ Kilgore Committee, *Mobilization Hearings*, Report, Part 1, p. 10. Senator J. C. O'Mahoney regards government cartels as "worse if possible, than private cartels." Cf. *Report on Postwar Economic Policy and Planning*, October 12, 1943, Senate Document 106, p. 22.

tion of Manufacturers, have expressed sharp opposition to international cartels and to all kinds of restrictions of competition on domestic and foreign markets. The United States Chamber of Commerce before the Second World War advocated a relaxation of the antitrust laws to the effect that entrepreneurs may co-operate on markets if approved by governmental agencies.⁶⁰ According to a report of the Foreign Policy Association, "Within industry opinion is divided."⁶⁰ Eric Johnston, President of the U. S. Chamber of Commerce, has emphasized his anti-cartel attitude on many occasions. He would accept "concerted help and encouragement to now backward nations," and he would co-operate in international trade with British interests. "We have the greater wealth; they have the greater experience. Let us pool them."⁶¹ However, he rejects the apportionment of world markets and the restriction of production and technological progress. Mr. Johnston recognized the fallacies of drawing sharp contrasts between political and economic conceptions of complete nations, especially between the United States and Great Britain. He well realized that Great Britain was the propagator and practitioner of free trade up to 1931. "To generalize about nations as vast and complex as the United States and Great Britain is certainly dangerous," he said, commenting on his voyage to England, "but to particularize is unfortunately impossible. And, so with perhaps foolhardy courage, I did generalize extensively both while in England and on my return home. I drew what seemed to me a basic and fateful contrast in the temper, the thinking and the economic philosophies of the two great English-speaking countries." In the opinion of Mr. Johnston, Americans "are opposed to a monopolized country or a cartellized world, whether the control is exercised by private or by official bureaucrats." In contrast, in Britain, "extreme Right and Left alike look forward complacently to extensive nationalization of industries, large and often controlling government participation in private business, increased public planning and financing, cartel arrangements for dividing and sharing world markets." According to Mr. Johnston, "No Ameri-

⁶⁰ Cf. *Policies as Supported in the Public Interest* (Pamphlet, Washington, 1936), *passim*.

⁶⁰ Grant S. McClellan, "Role of Cartels in Modern Economy," *Foreign Policy Reports*, October 15, 1944, p. 180. According to a recent address of the Attorney General of the United States, Francis Biddle, "today there is a well recognized movement to get this country to adopt the cartel system. . . . I recognize that there is very definite disagreement among Americans, and particularly American businessmen, on the whole cartel front."—"International Cartels," address before the Foreign Policy Association, Philadelphia Branch, Release of the Department of Justice, April 7, 1945.

⁶¹ Eric Johnston, *America Unlimited* (Garden City, 1944), pp. 212-13.

can . . . can intelligently and sincerely promise co-operation in any system of world-wide cartels." These are fundamental differences in philosophies between the United States and Great Britain. "We put emphasis on opportunity, they put it on security . . . they want only profit, whereas we have always thought of ours as a profit and a loss system. They would remove the loss."⁶² The National Association of Manufacturers described the opinion of the man in the street as follows: "At the present time managers of large corporations act by mutual agreement to 'regulate' prices and by this and other manipulations act to eliminate the little fellow."⁶³ American opinions on this subject, less extreme than that of Mr. Johnston, have been expressed by Professors Edward S. Mason and J. Anton de Haas of Harvard University; Mr. Milo Perkins, former Executive Director of the Board of Economic Warfare, and others.⁶⁴ These experts do not reject outright American participation in international private marketing agreements, though they all would prefer other alternatives, and they would not accept provisions blocking the expansion of international trade.

The Thirty-First National Foreign Trade Convention in New York, October, 1944, passed a resolution based on a comprehensive report of Mr. John W. White, President, Westinghouse Electric International Company, on international cartels. "The question concerning 'cartels' in foreign trade is not whether American business favors or opposes them. It is rather to find the best method in the national interest for Americans to play an active and effective part in a world in which a substantial portion of trade and business is conducted by

⁶² *Ibid.*, pp. 203 ff. A sharp criticism of Mr. Eric Johnston's opinion may be found in a speech of Mr. G. M. Garro-Jones, Parliamentary Secretary to the Minister of Production, published in *The New York Times*, October 16, 1944, under the caption, "U. S. 'Nationalists' Chided by Briton." The somewhat oversimplified presentation of Mr. Johnston's economic thought in contrast to English economic thinking finds counterparts in strange exaggerations on the part of isolated British economists. An example may show what directions figurative speech takes. Roy Glenday, Economic Advisor to the British Federation of Industries, after discussing the Final Report of the TNEC (which recommended a return to freer private enterprise), writes: "It cannot, of course, be denied that American capitalism is in process of committing suicide. The relentless spread of modern 'large-scale' enterprise is steadily undermining the traditional notion of private property, progressively narrowing the field available for the free exercise of individual initiative and 'small-scale' enterprise, and, by increasingly substituting the paid executive for the owner-capitalist, it is paving the way for the transformation of a middle-class capitalist society into some form of socialized economy."—*The Future of Economic Society*, p. 224.

⁶³ *Fallacies About Our Private Enterprise System*, p. 31.

⁶⁴ Mr. Perkins writes: "The wider the gap between our preaching and our practice, the sillier we look to other nations. It is time for us to make our foreign trade policy fit the realities of an era which has already gone a long way toward cartelization."—*Op. cit.*, p. 575.

either governmental or private cartels," says the resolution. The Convention opposed intergovernmental commodity agreements because they would imply regimentation of domestic commerce. "Unilateral attempt by our laws to control business and trade under foreign laws is ineffective and prejudicial."⁶⁵ Incidental references to international cartels were made by C. H. Minor, President, International General Electric Company, October 25, 1944, in the Foreign Trade and Shipping Subcommittee of the Special Committee on Post-War Economic Policy of the House of Representatives. According to a report of the *New York Times*, Mr. Minor knew offhand of no "bad" cartels. He cited his own company's affiliation as an instance "in which such organization had operated to the benefit of the ultimate consumer."⁶⁶ The economic situation of the United States deviates considerably from that of almost all other countries of the world. This fact is in itself one reason why opinions on future trade relations in the United States deviate from others. In no other country of the world was under-utilization of productive capacity as apparent as in the United States. It would be trite to elaborate on the recent relative and absolute progress of the United States in financial and industrial strength, which will be more apparent in post-war international trade. Exports are very important for the United States, but their pressing necessity is relatively insignificant if compared with that of Great Britain, Belgium, Chile, Brazil, Czechoslovakia, Australia, and many other countries.

The United States Government has, of course, the power to prevent American private entrepreneurs from actively co-operating on international markets with entrepreneurs of other nations. In addition to direct prohibition, this government has many other means by which it can impair international cartellization. It seems still unsettled how far the United States will go in that direction.

The attitude of Great Britain toward international cartels is a sub-

⁶⁵ *Final Declaration*, pp. 8-9. According to *The New York Times*, February 7, 1945, p. 27, the National Foreign Trade Council submitted to all members of Congress suggestions "to legalize" international cartel agreements under specified conditions. According to *The New York Times*, "The recommendations were that Congress require the filing with the Department of State of international business agreements; that it specify the standards of nation's foreign economic policy to be considered in determining the reasonableness of possible restraints of trade in such agreements; that it specifically recognize that Americans may enter into agreements valid under foreign laws, provided they result in no unreasonable restraint of trade in the United States; and that Congress should authorize the State Department to give revocable approval to proposed agreements which it finds do not constitute unreasonable restraint of trade within the United States."

⁶⁶ *The New York Times*, October 26, 1944, p. 27.

ject of lively discussion. Many assume that the nationalization of industries is just around the corner in the United Kingdom and that this will automatically answer questions about co-operation of private industries. Others assume that all major European industries are going to be socialized after the Second World War. Alarming reports are plenty. A report of the *New York Times*, entitled "Europe's Industry Is Going Socialist," carried the significant sub-title, "Britons believe Americans in ignorance of need for end of private industry."⁸⁷ It is a truism that Great Britain faces an extraordinarily difficult situation on export markets. All available methods of public and private trade policies probably will be used to deal with this situation, without great regard to clear-cut general principles.⁸⁸

In the interwar period the domestic industries of Great Britain were highly organized in cartels and otherwise. Many industrialists and a large part of public opinion saw cartellization as a device for balanced expansion and rationalization. However, there were many dissenters who pointed to the disadvantages of uniform price systems and quotas. Although the estimate of many writers of the extent of the absence of cartels in Great Britain until 1931 seems somewhat exaggerated, there is little doubt that the free entrance of imported commodities into the market of the United Kingdom up to 1931 was a strong check upon the policies of all kinds of domestic entrepreneur unions. After 1931, the price and production policies of British domestic cartels were, more or less, subject to the supervision of executive agencies and Parliament. Opinions are divided about the effectiveness of that supervision and the wisdom of the measures taken.

The position assumed by British industrialists with reference to expanding production and employment through cartels is well characterized by a discussion which took place in 1927 between Mr. Theodore Robinson, a steel executive from the United States, and Sir William Larke, a representative of the British steel industries. Mr. Robinson said that the public state of mind was the reason for the governmental encouragement of the establishment and maintenance of cartels in Europe and the discouragement of industrial combination in the United States. He regarded "permissive regulation" as the desirable middle way between unrestricted competition and uncontrolled license to combine. Sir William Larke found it extraordinary that public opinion in the United States "still lagged behind

⁸⁷ November 20, 1944, p. 10.

⁸⁸ See e.g., E. F. Schumacher, *Export Policy and Full Employment*, Fabian Publications, Research Series No. 77 (London, 1943), *passim*.

the view held in Europe." He attributed this behavior to a fallacy in reasoning (often apparent in Great Britain, too) by which the consumer assumes that a combination must operate against him. Sir William predicted that combinations not only would receive support but "the stimulus and pressure of public opinion" in Great Britain. He stated that "it was only by means of such organization that this country [Great Britain] could hope to readjust itself to the post-war economic position, without a permanent contraction in the scale of its industry and consequent increasing burden of unemployment."⁸⁹ Sir William did not discuss the point, often made in the United States, that huge economic power concentrated in private hands may in itself endanger the political structure of the state. Probably he regarded it as self-evident that combinations of independent enterprises properly held in check by the state cannot be regarded as agglomerations of uncontrolled economic power.

A comprehensive statement on the development of competition on the domestic and international level was made by a leading British industrialist, Mr. John Craig, in a presidential address before the Iron and Steel Institute in 1940. Recalling the period before the First World War when the industry depended for its profits on a successful speculation, he observed that this was a misfortune for "industry because it attached the attention of the industry more on the buying and selling than on the costs of production." He predicted that "the old policy which clamored for more competition, ever more competition, would not stand the strain of modern social development. These developments are symbolic of a change of attitude toward the great problems of commerce." He attacked the Manchester school which believed, and still possibly believes, that competition is synonymous with price-cutting. In a separate section of his address dealing with "The Theory of Competition," he argued that "non-price competition" should be the objective of governments, consumers, and industry, and that a fair price is more advantageous for the consumer than an unreasonably low price. Excessive prices are as dangerous as prices which are too low, and controlled stable prices are of greater service to the consumer than violent fluctuations. It is important to eliminate excessive profits and to base prices on production costs to insure profits that make necessary investments possible. The organization of British

⁸⁹ *The Journal of the Iron and Steel Institute*, CXVI (London, 1927), 30 and 35. See also A. F. Lucas, *Industrial Reconstruction and the Control of Competition, passim*; and Hexner, *Steel Cartel*, pp. 56 ff.

industries was imperative, he thought, for furthering international co-operation.⁷⁰

In other discussions, this idea of industrialists who see the decline of competition as a historic necessity was attacked rather severely. *The Economist* in March, 1939, remarked that England was experiencing a gradual cartellization and that "An entirely novel form of industrial organization is creeping up on us unawares." Discussing the tendency of industry to make public authorities and consumers assist the cartel movement, *The Economist* said: "The result has naturally been to revolutionize the attitude of industry to the State: the policeman has turned Father Christmas. . . . For all the acts of these various bodies admirable justification, usually relating to cost of production, can be pleaded. But the fact remains that, to judge by what we have seen of it to date, the self-government of industry leads to the indefinite postponement of true rationalisation and a strong bias in favour of high prices for the essential raw materials of national industry and national health." Reviewing the British cartel development up to the Second World War, *The Economist* charged that ". . . for peacetime purposes the wholesale pooling, co-ordination and cartellization of industry have severe and obvious disadvantages." Comparing the competitive price policy of large corporations with that of cartels, *The Economist* judged that cartels "have a bias in favor of easy life, of high profits on low turnover."⁷¹ Captain Oliver Lyttelton in the House of Commons compared the social danger inherent in cartels with that inherent in monopolistic combination of the corporate type. "The single large monopolistic firm—such as Unilever or ICI [Imperial Chemical Industries, Limited]—has its dangers; but as least those who are in control cannot evade their social obligations, nor are they prevented from pursuing a dynamic and progressive policy. The great danger lies in the growing influence of what the common law knows (and used to condemn) as 'agreements in restraint of trade' which [operate] without securing whatever technical economies there may be in large scale production. . . ." In the opinion of Mr. Lyttelton, the cartel movement is far too strong in British industry.⁷²

⁷⁰ *The Journal of the Iron and Steel Institute* (London), No. I, CXLI (1940), 58-59. Saul Nelson and Walter G. Keim wrote in TNEC, *Monograph No. 1*, "Price Behavior and Business Policy" (1940), p. xxi, "There is today a wide-spread belief in business circles that competitive efforts should be directed toward these nonprice aspects of competition almost to the exclusion of price. . . ."

⁷¹ *The Economist*, March 18, 1939, p. 551, and March 8, 1941, p. 298.

⁷² Quoted in *The Economist*, April 5, 1941, pp. 436-37.

During the Second World War several trade associations published statements about postwar plans and future entrepreneur co-operation on international markets. The Association of British Chambers of Commerce suggested the encouragement of marketing agreements concerning raw materials as they existed before the war. "It is worthy of consideration whether this policy should be extended to cover manufactured goods and it might well prove the solution of the problem of controlled ebb and flow of world trade." The Association does not favor the growth of monopolies in British domestic trade.⁷³ The London Chamber of Commerce opines that "The outlook which expresses itself in such phases of economic belligerency as 'capturing markets' must be changed to one of good neighborliness. Competition, both within a nation and internationally, should remain, but should be reduced from a life to death struggle to healthy emulation. . . ."⁷⁴ One hundred and twenty British industrialists signed in November, 1942, a memorandum, *A National Policy for Industry*, calling for a strong domestic trade organization of industrial branches, with powers to determine common policies under supervision of Parliament. The report condemns restrictive international cartels, but favors those marketing unions which serve international expansion. This plan aroused sharp criticism from British public opinion. The industrialists signing the memorandum were accused of contemplating a corporate state.⁷⁵ The Federation of British Industries discussed cartels in several of its reports. So did the British Institute of Exports. Both regarded international co-operation of entrepreneurs as a suitable device of expansion. In the International Business Conference of Rye, N. Y., in November, 1944, certain differences of opinion developed between the British and American delegations about the forms of future international trade.⁷⁶ Tendencies to expand British trade policies with a sterling block were regarded as unfair to the United States by Dr. Richard Schüller.⁷⁷

⁷³ "British Business Associations on Post-War Reconstruction," *Bulletin of the Commission to Study the Organization of Peace*, December, 1942, pp. 2-3.

⁷⁴ *Ibid.*, p. 4.

⁷⁵ *A National Policy for Industry* (pamphlet), London, November, 1942. G. L. Schwartz introduces his criticism as follows: "Now where are we getting to? Just as the Left Intelligentsia have begun to repudiate schemes which substitute monopoly for competition, and have actually reached the stage of hissing at 'slow suicidal sectional restrictionism,' under which denunciation they include organized labor, as well as organized capital, a group of prominent industrialists, most of them probably conservative, have rushed in with a scheme of full-blooded corporativism which is in direct descent from the syndicalist programmes of the old-time revolutionaries."—"A Modest Proposal," *The Nineteenth Century and After*, March, 1943, p. 109.

⁷⁶ *The New York Times*, November 17, 1944, p. 26.

⁷⁷ *Ibid.*, November 5, 1944, p. 16.

The future trade plans of British business were frequently repudiated by various sections of British public opinion, including labor circles, which advocated intergovernmental commodity agreements. An article of *The Evening Standard*, (London), October 2, 1944, attacked international cartels with the arguments frequently used in the United States. "The international cartel realized none of the hopes of its promoters. It menaced our national security and endangered our national prosperity. It died in the first cannonade of war. It should stay dead.—What then do we seek? Not world cartels, but world co-operation based upon agreement between Russia, America, and Great Britain."⁷⁸ And the *New York Times* reported September 25, 1944, from London, that "The campaign against international cartels initiated by President Roosevelt last week has received a surprising amount of support from various sections of English public opinion."⁷⁹

The British Government has not published any comprehensive statement on the desirability of international cartels in future international trade.⁸⁰ Its preliminary standpoint is included in the White Paper, *Employment Policy*, submitted to Parliament in 1944, which reads:

There has in recent years been a growing tendency toward combines and toward agreements, both national and international, by which manufacturers have sought to control prices and output, to divide markets and to fix conditions of sale. Such agreements and combines do not necessarily operate against the public interest; but the power to do so is there. The Government will therefore seek power to inform themselves of the extent and effect of restrictive agreements, and of the activities of combines; and to take appropriate action to check practices which may bring advantages to sectional producing interests but work to the detriment of the country as a whole.⁸¹

Labor members of the Government severely criticized cartels, as did other labor politicians in both chambers of Parliament.⁸²

The very fragmentary presentation of divergent official and unofficial opinions may show the reader to what extent public opinion

⁷⁸ "The Cartel," p. 2.

⁷⁹ September 25, 1944, p. 20.

⁸⁰ Cf. Redvers Opie's statement in "What Should Be British and American Policy Toward International Monopolies?" *Chicago University Round Table*, No. 319 (April 30, 1944), *passim*, and the speech of the Deputy Prime Minister, Mr. Clement R. Attlee, in the House of Commons, December 10, 1942.

⁸¹ P. 19.

⁸² Cf., e.g., House of Lords, January 25, 1944, April 18, 1944, and March 21, 1945. *Debates in the House of Lords*, CXXX, 471 ff., and CXXXI, 427 ff.

participates in this rather technical problem of international trade. Frequently the significance of the particular issue is completely isolated from broader problems. Many interests involved in national and international politics that do not flatly reject co-operation of private entrepreneurs on international markets refuse to disapprove of them completely because they believe that cartels may be so regulated as to provide means for balanced expansion of international trade. Many do not regard cartels as the ideal form in which international trade should develop but as the least objectionable among practicable patterns, provided national governments check their respective exporting groups and that international agencies supervise the movement of commodities, services, and capital in international trade. Sometimes the fear that sharp competition may result in confusion on markets or in more rigid monopolies than cartels, influences opinion.⁸³ There can be no doubt that more complete and open discussion of the political as well as other issues involved would be highly desirable.

⁸³ Opinions on the competitive positions of industries in various countries are sometimes exaggerated. The prospects of British steel industries, for example, in the light of present efficiency in the American steel industry, have been evaluated too pessimistically. In discussing the use of lean ores in the United Kingdom a responsible steel executive of the U. S. stated that the production of a ton of steel requires five times as many man hours in Great Britain as in the U. S.—(L. S. Hamaker, "Postwar Outlook for Steel," *Institute of Scrap Iron and Steel Yearbook*, 1945, p. 112.)

Conclusions

I

THE SIGNIFICANCE of international cartels in the recent past has been both greatly under and overrated. Cartels have been underestimated because of the lack of empirical research and the consequent dearth of information on the structure and operation of international markets. Their significance has been overestimated both by those who have regarded them as possible primary mechanisms for the establishment of harmonious international economic intercourse and by those who have looked upon them as devilish instruments responsible for the disintegration of the community of nations.

The following propositions should introduce the concluding part of this study:

International co-operation of entrepreneurs has become and may again become an instrument of political warfare. This does not mean that it must become such an instrument, or that it is primarily or inherently such an instrument. Like a mechanical tool, it may serve socially undesirable, neutral, or desirable objectives.

International cartels as such do not have a collective psychic structure and political and economic volition. What looks like volition is the resultant compromise of *essentially* separate (frequently basically conflicting) interests and ends. A cartel is a mosaic composed of independent entities though it may appear on the market to the superficial observer as an organic whole. International cartels do not have a specific political value system, an ego of their own, or a political group mind, as domestic cartels may sometimes have. Its members, belonging to various nations, do not divide their political loyalties; they only compromise their business interests.

Cartel policies are meaningless without reference to a particular historic and economic setting. International cartels do not have sig-

nificant problematical elements of their own if segregated from the broader framework and issues of international economic intercourse. The experience gained from the operation of international cartels in the politically unique period of the thirties may be applied only with many reservations to a future regime of hoped-for political security. Restrictionalism is frequently the direct or indirect consequence of political insecurity and of fear of political aggression. In a world not pervaded by such restrictionalism, entrepreneurial co-operation will offer problems quite different from those of the period prior to the Second World War.

Any generalization about international cartels will be significant only if it is based on comprehensive research, analysis, and appraisal of all important international markets, cartellized and noncartellized. It is impossible to make reliable generalizations with reference to international trade mechanisms on the basis of the selected examples now available.¹ The generalizations in this study are, of course, not exempt from this proposition.

No sound policy on international cartels can be framed until certain perplexities inherent in almost all discussions of entrepreneurial co-operation are clarified. Such items are: (a) If the "rational" entrepreneur considers competition risky and costly, perhaps ruinous, from the point of view of his private interest, can he be expected nevertheless to compete because of requirements of public interest? (b) Does the absence of express or tacit marketing agreements automatically result in active competition? (c) Can *active* competition be enforced in democracies by legal mechanisms?

High-scale employment, a more equitable distribution of the social product, and minimum living standards will probably become primary political postulates in future national and international politics. These postulates imply a considerably enlarged volume of international production as compared with pre-war years. Public and private restrictionalism which acts counter to these political postulates can be broken only in an atmosphere of comprehensive economic and political co-operation of nations.

The political and economic policies of democratic nations (for example, as in the United States, Great Britain, Canada, Holland up to 1939) are far more complex than the ideas conveyed by terms like "planning" and "market economy." A practical economic prob-

¹ One of the primary responsibilities of a future international economic organization should be to arrange for comprehensive market research, and to publish up-to-date material.

lem is not solved by its mere assignment to a governmental agency for "planning." Planners, unless they intend to substitute their own choice for the aggregate of choices of freedom-loving people, will have to present material alternatives indicating the values that have to be given up when one choice is made rather than another. Market economy can and will continue to perform a necessary and useful task in political democracies. However, the degree to which democratic governments will rely upon the impersonal forces of the markets will depend upon more material factors than threats that every kind of public and private business regulation necessarily leads to fascism. Neither the faith in the all-pervasive operation of the Invisible Hand nor the belief that public administration is essentially arbitrary are sufficient guides for practical decisions concerning marketing problems in daily actions of parliaments, executive agencies, businessmen, labor, and voters. Authors in the field of market co-operation before suggesting public policies must descend to the prosaic investigation of markets and behavior patterns of consumers and businessmen.²

Those who regard an all-embracing system of competition in international trade as realizable have not arrived at this view by comprehensive investigations of markets and men. Such investigation would lead to more modest, but more realistic, expectations and suggestions. Extreme liberals regard most of the public and private market regulations in free countries as democratic denials of democracy. And because many of them feel that competition does not always represent the "rational action" of the private entrepreneur³ (although it may represent the rational interest of the public), and because they realize that sharp competition has the inherent tendency to destroy itself, they envisage an instrument which they denounce when employed by planners. That instrument is legal compulsion so sharp and pervasive that it would keep entrepreneurs competing even when they did not regard it as rational.⁴ Legal regulations (such as the Sherman Act)

² As Professor F. A. Hayek put it, "The attitude of the liberal toward society is like that of the gardener who tends a plant and, in order to create the conditions most favorable to its growth, must know as much as possible about its structure and the ways it functions."—*Op. cit.*, p. 18. See also Erich Walter Zimmermann, "What We Mean by Resources," *The Resources of Texas in Texas Looks Ahead*, I (1944), 1 ff.

³ "To widen the market and to narrow the competition, is always the interest of the dealers. To widen the market may frequently be agreeable enough to the interest of the public; but to narrow the competition must always be against it, and can serve only to enable dealers, by raising their profits above what they naturally would be, to levy, for their own benefit, an absurd tax upon the rest of their fellow-citizens."—Adam Smith, *The Wealth of Nations*, Book I, xi (Dent Edition, I, 231-32).

⁴ Professor Lionel Robbins regards statutory regulation as an effective and compre-

may, of course, be practicable to prevent socially undesirable market conspiracies, and legal arrangements may be useful to make competition possible and attractive. The American system of antitrust regulation does not impose upon the entrepreneur the obligation to compete *positively*, but it requires businessmen who choose to remain in business to refrain from monopolistic practices. The above-mentioned authors go much further. They would enforce active competition. The enforcement of all-comprehensive *active* competition on the international market by legal mechanisms has not been experienced up to now. If applied without mature consideration, it may so deeply interfere with the action of the entrepreneur as to be far more burdensome than any reasonable regulation it might replace.⁵ If current suggestions concerning enforcement of active competition on international markets are to be seriously considered, new comprehensive investigations are necessary, from market to market, to ascertain how competition could be legally enforced and where enforcement would lead. In addition, enforcement of active competition on international markets is logical only if a measure of economic and political equality exists among nations. This supposed equality of nations and entrepreneurs on markets, according to present ideas, is well illustrated in a passage of the *Red Lily*, by Anatole France, when the author speaks of "the majestic equalities of laws, which forbid rich and poor alike

hensive instrument to enforce competition. See e.g., *Economic Planning and International Order*, pp. 156-57. Another scholar, Professor Alexander Rüstow, would simply divide industries into two categories. "Industries enjoying natural, technical, or other inevitable monopoly conditions should be taken over by the state." The rest of the industries would be subject to a "strong and prudent state policy of policing the market . . . with the corresponding legislation, jurisdiction, and administration, so that a fair degree of efficiency competition can be strictly maintained in the whole realm of private market economy." However, cut-throat competition should be punished by law. Mr. Rüstow regards American antitrust policy as ineffective. He would abolish outright all kinds of private monopolies. See "General Sociological Causes of the Economic Disintegration and Possibilities of Reconstruction," in Wilhelm Röpke, *International Economic Disintegration* (New York, 1942), pp. 275, 280-81. According to Professor Friedrich A. Hayek, "in order that competition should work beneficially, a carefully thought-out legal framework is required . . . neither the existing nor the past legal rules are free from grave defects." Only where its is "impossible" to make competition effective would Professor Hayek consider other methods of economic activity.—*Op. cit.*, p. 36.

⁵ Strong legal compulsion to compete actively may lead to results opposite to those intended by its advocates. As Dostoevsky put it, "I am perplexed by my own data and my conclusion is a direct contradiction of the original ideal with which I start. Starting from unlimited freedom, I arrive at unlimited despotism. I will add, however, that there can be no solution of the social problem but mine." Shigalov, in Fyodor Dostoevsky, *The Possessed* (New York, 1923), Part II, vii, 376.

to sleep under the bridges, to beg in the streets, and to steal their bread."⁶

2

Embarrassing fallacies in predicting the behavior of businessmen result from the use of unverified generalizations.^{6a} Those who describe the *Homo Ethicus*, *Homo Politicus*, *Homo Oeconomicus*, and *Homo Juridicus* "as he is" or "as he might be" admit that "in practice" human beings do not act as assumed for the purposes of theoretical analyses. This difference between tools of reasoning and actuality is often disregarded. A considerable part of the modern literature on international cartels would be put into its proper place if the following words of Thurman Arnold were taken into account:

Guesses about the future power of any human organization or about future activities of any culture must take as fundamental factors an estimate of the morals and habits and disciplines of groups and also the quality of their leadership. The peculiar folklore of lawyers and economists considered these factors the business of somebody else. They were thought of not as a part of law and economics but as confusing elements which marred the clean outline of those sciences. Therefore, such factors were put into separate compartments of learning, such as psychology or sociology, where they did not interfere with more orderly learning.⁷

⁶ Garden City, 1914, vii, 837. A rather interesting example for controversies in the conception of equality of opportunities on colonial markets may be found in a discussion about the Open Door policy in British Colonies. February 17, 1937, the Earl of Plymouth, Undersecretary of State for Foreign Affairs, in the House of Lords remarked: "... the only serious effect of a completely Open Door policy would be to favour trade with those countries which have an exceptionally low level of labour costs. However much this might be in keeping with the teachings of the classical economists, it is impossible, in the present conditions of the world, for His Majesty's government to admit that the play of blind economic forces should be allowed to work havoc with the established industrial and political systems."—*House of Lords Debates*, Vol. 104, cols. 211, 219.

^{6a} One of the great dangers of generalizations reached "epistemologically" is that they seem more secure than those gained by observation of facts. According to Sir Arthur Eddington, "Generalizations that can be reached epistemologically have a security which is denied to those that can be reached empirically."—(*The Philosophy of Physical Science* [New York, 1939], p. 19.) Professor Eddington is one of the "radicals" who recognizes laws and properties of an epistemological origin as "compulsory and universal." In his opinion, they are in some cases at least "exact." On the other side there are radicals who regard sensory observations as the only foundation of knowledge. Professor Max Born, the great physicist, writes about a new group of enemies of theory as follows: "In Germany a school of extreme experimentalists, led by Lenard and Stark, has gone so far as to reject theory altogether as an invention of the Jews and to declare experiment to be the only genuine 'aryan' method of science."—*Experiment and Theory in Physics* ([Cambridge], England, 1944), p. 1.

⁷ *The Folklore of Capitalism* (Garden City, 1941), pp. 130-31. However, Mr. Arnold in another part of his book (pp. 182-83) advises his readers to go to the other

Businessmen, cartellized and not cartellized, are, naturally, subject to the same ethical rules as other people of the same geographical environment. In addition, they are (or should be) subject to what is called business ethics. Neither general ethics nor business ethics give any comprehensive practical rules for daily business conduct. In one of the early comprehensive cartel discussions, Gustav von Schmoller attributed to the absence of moral considerations and recklessness among American business executives their great successes in business combining.⁸ An indefinable number of serious publications regard the participation of executives in marketing combinations as vicious, unfair, and contrary to the primary ethical obligations of the *Homo Ethicus*. People accept with resignation some answers to the question whether current ethical rules are realizable here and now. One such answer reads: "According to astronomers, we have a hundred million years to live on this earth. We should not expect to solve our problems and achieve a completely Christian peace overnight. . . ."⁹ The confusion in practical ethics and the contradictions in business ethics are more serious problems in cartel issues than most people realize. Their clarification is an indispensable preliminary to the establishment of the social responsibility of entrepreneurs and the elimination of demagoguery in this field.

Western legal systems acquiesce in adjusting legal rules to practice through very broad interpretations. The *Homo Juridicus*, who applies legal rules literally, is symbolized by Mr. Justice Holmes's "bad man" and by Shakespeare's Shylock, the hard-hearted money lender. The interpretation of national and international legal rules and obligations has exerted great influence on cartel policies all over the world. Conflicts between law and practice, between *Homo Juridicus*¹⁰ and

extreme. "In writing about social institutions, he should never define anything. He should try to choose words and illustrations which will arouse the proper mental associations with his readers. If he is ever led into an attempt at definition, he is lost. . . . For the purpose of making a ceremony which dramatizes two or more contradictory ideas at the same time, the process of definition is most useful."

⁸ "Das Verhältnis der Kartelle zum Staate," *Verhandlungen des Vereins für Sozialpolitik*, Vol. 116 (1905), p. 238. American business executives found a vigorous defender in the person of the greatest contemporary social scientist, Professor Max Weber. *Ibid.*, pp. 384-85.

⁹ "How Christians Should Think About the Peace," *Chicago University Round Table*, No. 316, April 9, 1944, pp. 4-5. This pamphlet containing a brief and brilliant discussion of the most important practical problems of ethics seems to this author unsurpassed in sincerity and honesty.

¹⁰ See Giorgio Del Vecchio, "The *Homo Juridicus* and the Inadequacy of Law as a Norm of Life," *Tulane Law Review*, June, 1937, pp. 503 ff. Mr. Justice Holmes wrote about his "bad man" as follows: "If you want to know the law and nothing else,

the practical businessman, were often projected into sterile discussions on international cartels.

No fewer contradictions exist between the *Homo Politicus*, whose only ambition is to impose his will on others, and reality. There is no doubt that ownership of enterprise gives a businessman economic power over persons and things and that the combining of businessmen geometrically increases certain power elements. The possession of economic power entails automatically some political power in order to maintain and augment the economic power. This spiral is not a self-propelling feature of a social system. It is authorized, molded, and restricted by an organized government. As far as these power structures transgress the boundaries of permitted private power they must be considered in the light of illegal actions. It is true that actual practice does not apply strict legal rules on the wielding of power by economic groups. In practice, the entrepreneur's function is much more complex than mere imposition of his will on consumers and competitors, and his power position is altered by the power held by other individuals, groups, and public agencies. It is revealing to note that occasionally schematized political reasoning has justified marketing unions of entrepreneurs and the imposition of their will upon outsiders by pointing to similar practices in labor unions. Georg Bernhard, at the time a socialist writer, stated in a meeting of German social scientists: "It is my duty to make explicit my opinion as a social democrat: I claim for labor complete freedom of coalition. I claim also that nobody should go into the details of compulsion exercised in this respect, because in my opinion an organized worker is worth a hundred or a thousand times as much as an unorganized worker. But it is very dangerous to require entrepreneurs to do the opposite. My standpoint is, that the noncartellized entrepreneur is a thousand times worse than the cartellized. It means he stabs his colleagues in the back if he refuses to become organized."¹¹

G. E. Catlin took great pains to create his "scientific Frankenstein." He writes: "There is nothing inherently impossible in the attempt to construct . . . a 'political man' who seeks as far as possible to direct the wills of others in accordance with his will and as little as possible to be thwarted or controlled by their wills." He admires economic

you must look at it as a bad man, who cares only for the material consequences which such knowledge enables him to predict, not as a good one, who finds his reasons for conduct, whether inside the law or outside of it, in the vaguer sanctions of conscience." *Collected Legal Papers*, New York, 1921, p. 171.

¹¹ *Schriften des Vereins für Sozialpolitik*, Vol. 116 (1905), p. 329.

doctrine because it reared the Economic Man. "Whether the economic man existed or ever has existed is immaterial. It is sufficient that, in the study of our social organization, we observe that in the economic relationship, the will to possess with a minimum of labor is a dominant psychological factor; that men should act as if they were economic men is a condition fulfilled in the business world of our day with remarkable frequency."¹²

The rational pursuit of self-interest is the most outstanding quality of the *Homo Oeconomicus*. As John Stuart Mill put it "... man is a being who is determined, by the necessity of his nature, to prefer a greater portion of wealth to a smaller. . . ."¹³ The pursuit of pleasure as the ultimate motivation of human action has accompanied this proposition. Alfred Marshall remarked heretically in his Inaugural Lecture, "Whenever we get a glimpse of the economic man he is not selfish."¹⁴ Naturally, Marshall did not mean to imply that businessmen are less selfish than other people are, but he meant that they are not more so. To show the dogmatism of extreme liberals advocating a political foundation of democratic society based primarily on "market economy," thus on "economic men" and "consumer sovereignty," it may be useful to quote a few sentences from a recent study of Ludwig von Mises. According to him, "The economic theories on which the liberal doctrine is based are irrefutable. . . . The demonstration that within a market economy there is no conflict between rightly

¹² *The Science and Method of Politics* (New York, 1927), pp. 213-15. One of the earliest representatives of Naziism wrote: "Nothing is today more modern than to denounce political considerations. American finance, technological experts of industry, marxist socialists, and anarcho-syndicalistic reactionaries are united in claiming that the anti-objective rule of politics upon the objectivity of economic life should be eliminated."—Carl Schmitt, *Politische Theologie* (Munich, 1923), pp. 55-56.

¹³ *Essays on Some Unsettled Questions of Political Economy* (London, 1844), p. 138.

¹⁴ *Memorials of Alfred Marshall* (ed. A. C. Pigou), p. 160. See also Frank H. Knight, "Economics, Political Science, and Education," *American Economic Review*, March, 1944, Supplement, p. 72. The behavior of the "economic man" is governed by the basic principle of economics of attaining the greatest material advantage with the least possible effort. Granted several qualifications, this proposition may be verified in practical life by introspection and observation. The difficulty arises when this proposition is considered an absolute one, independent of empirical verification and of the qualifications attendant to observation. One may point to a somewhat parallel development in natural sciences. The principle of "least action" (i.e., that "Nature was supposed to act like a human being, with a definite purpose which it tries to attain with the smallest amount of 'action' possible") was long regarded as a focal principle of physics. According to Max Born, "We know to-day that the actual motions do not correspond to real minima of action except for short time intervals, but to stationary states, and we consider the principle of least action only as a very useful and powerful tool for condensing complicated differential equations in a short expression."—*Experiment and Theory in Physics*, pp. 6-7.

understood interests could not be refuted." However, von Mises courageously asks and answers the question: "But will all men rightly understand their own interests? What if they do not? . . . The realization of the liberal plan is impossible because—at least for our time—people lack the mental ability to absorb the principles of sound economics. Most men are too dull to follow complicated chains of reasoning."¹⁶ Indeed, von Mises supplies an excellent example of how the ideal of perfection may impede practical reasoning on less perfect good.

The lack of organized research on the institutional behavior of business executives is one of the most conspicuous gaps in economic research, and is reflected in the reasoning on international cartels. Edwin G. Nourse put the general problem in this way:

The active role of proprietary enterprise under modern industrial conditions is exercised by the professional executives who "administer" business. It simply is not possible to talk in any fruitful way about "pure" profits on capital, about the capital as the creator of income, or about the profit motive as a vital factor in the operation of our economic system except in terms of the persons who give life to the business enterprises in which capital is used.¹⁶

There is no point in discussing here whether orthodox economic doctrine is justified in leaving to other branches of knowledge the consideration of value problems of ethics and politics.¹⁷ It is contended here simply that economists, in elaborating on static and dynamic theory, should devote more attention to significant empirical facts. In monetary policies and in the field of public and private finance, economic value theory has made decisive contributions. In the field of international trade, both from the point of view of private enterprise and public policy, much is yet to be done.

¹⁶ *Omnipotent Government*, pp. 282-83.

¹⁶ *Price Making in a Democracy*, p. 93. According to Mr. A. F. Hinrichs, "In a relatively uncontrolled economy like ours, it seems futile to limit ourselves largely to the interactions of supply and demand. To me, it seems imperative for us to give more attention to those aspects of economic behavior we have taken for granted in the past. We simply have to do it whether we like it or not."—R. T. Bye (ed.), *Critiques of Research in the Social Sciences*, II, 281-82.

¹⁷ Cf. Haberler, *The Theory of International Trade*, pp. 213 ff.; A. C. Pigou, *The Economics of Welfare* (London, 1932), p. 5; and R. F. Harrod, "Scope and Method of Economics," *The Economic Journal*, 1938, pp. 383 ff. Lionel Robbins put it thus: "Economics deals with ascertainable facts; ethics with valuations and obligations. The two fields of enquiry are not on the same plane of discourse."—*An Essay on the Nature and Significance of Economic Science* (London, 1932), p. 132.

3

Without attempting comprehensiveness or symmetric arrangement, a few observations with reference to international cartel experience should be assembled here.

1. Confusion about the meaning of the term cartel reflects upon all cartel discussions. Recently attempts have been made to distinguish between restrictive cartels and other collective-market controls of private entrepreneurs.

2. Up-to-date empirical research about international markets has been limited to raw materials and foodstuffs and to a few selected manufactured and semifinished commodities. Conclusions drawn from empirically unfounded or not sufficiently founded assumptions are necessarily conjectural.

3. Fruitful discussion of marketing co-operation of private entrepreneurs on international markets presupposes clarity of broader conceptions concerning political and economic co-operation of nations.

4. Mutual self-restriction of entrepreneurs with reference to the production or marketing of a commodity or service does not necessarily result in a smaller volume of world production or trade in the respective commodity as compared with a hypothetical case in which the absence of such restrictions is assumed, though this may be the case very often. Balanced expansion of international trade and expansionary investment policies may require certain restrictions upon production, marketing, and investment. Private restrictions upon economic activities have become in many cases, and may become again, oppressive upon cartel members, outside competitors, distributors, and consumers.

5. International cartellization has frequently had important repercussions upon domestic markets of exporters, importers, and potential exporters.

6. The meaning of the expression "competitive market" differs from commodity to commodity and from one market situation to another. Effective measures to enhance permanent workable competitive markets presuppose detailed specific investigations on the practicable range of competition. Loose unions of private entrepreneurs may become—in particular cases—frameworks for permanently competitive markets.

7. Cartel dynamics, i.e., considerations of the behavior of cartel members with reference to co-operative policies within the cartel, is an almost unexplored field of research. The assumption that the

essence of cartel membership (and the ambition of every cartel member) consists in restricting supplies in order to create absolute scarcity is not borne out by the facts, although there have been many cartels to which that proposition applies. The study of cartel dynamics would show that so-called high-cost producers were not prominent in *international* cartels. In this regard they differed from many domestic monopolies.

8. The problem of dumping is a confused issue in connection with international market controls because the weak currencies of dumping countries cannot be easily brought into conformity with those of countries having a strong currency. This item is unexplored with reference to the inter-war period. The question whether dumping is in certain circumstances desirable requires further speculation.

9. Price discrimination has not been unfamiliar in cartel price policies. The reasons for it have been the fighting of outside competition, price-adjustments to different tariffs in importing countries, competition by domestic producers in importing countries, imperial market policies, and so forth.

10. Cartels in the past have carefully avoided interfering with labor problems.

11. Except for agreements based on patents, trademarks, and technological experience, many international cartels have gradually relinquished regulation of capacity, total output, and investment.

12. Different national groups in international cartels have not had common political objectives.

13. Except for agreements based on patents and secret technological knowledge most international cartels have had to adjust their policies with reference to real and potential outside competition.

14. Basing-point systems have been practiced in the framework of many cartel agreements in addition to other geographical price systems.

15. The Americans and the British occupied rather isolated positions within large cartels.

16. No satisfactory investigation has been made of world export prices of manufactured commodities, of their relationship to domestic and other prices, and of the influence of market co-operation on price movements.

17. There are no a priori reasons which would justify the conclusion that the co-operation of entrepreneurs on international markets necessarily violates "general interests," unless it is assumed that all business activities of private entrepreneurs essentially violate "general interest." This is not to say that after thoroughgoing empirical in-

vestigation it may not be found that certain activities of co-operating entrepreneurs violate general interest, or that most of the activities of co-operating entrepreneurs violate general interest.¹⁸

4

In the transition period after this war, entrepreneur co-operation on international markets will probably be subject to the direction of the respective governments. There may develop a few transitional forms between intergovernmental marketing controls and private cartels. There are many yet-uncrystallized major cartel problems which specifically relate to the transition period. Furthermore, considerations of economic intercourse after the transition regime raise many other pertinent problems.

A few suggestions about future international cartel policies may be indicated here.

1. Comprehensive publicity, intelligently administered, is a focal point of future cartel policies. It must embrace not only the public listing of significant cartel agreements but also the information on important cartel policies. The public registration of cartels should be required. This involves national legislation and calls for due consideration of business privacy. The determination of the material which may be made public will cause less difficulties than generally expected.

2. National governments should inform their entrepreneurs in advance which business activities violate primary national policies. Governments should arrange to inform themselves on those marketing policies of entrepreneurs which may touch directly or indirectly upon national interest. A reconsideration of the political repercussions of entrepreneur co-operation on the basis of detailed case studies would be most useful.¹⁹

¹⁸ J. B. Condliffe and A. Stevenson, stating that "Information on cartel organization is difficult to obtain," opine that "these private organizations, controlling whole segments of the world economy, seem on occasion to have operated against the general interest and since there are a priori reasons for believing that they may tend to do so, a strong case can be made for the regulation of their activities" (*The Common Interest in International Economic Organization*, p. 116). Messrs. Condliffe and Stevenson did not elaborate on what a priori reasons in this respect are. Despite a priori reasons, there is a strong case for the regulation of entrepreneur coalitions. The difficulty is in determining the kind of regulations to be applied in the international field.

¹⁹ Cf. the opinion of one of the most experienced statesmen in this field, Senator Joseph C. O'Mahoney, Chairman of the TNEC. In his opinion: "Nothing, I believe, can possibly be more important than that the United States and Great Britain unite in some arrangement to abolish international monopoly. International monopoly—commonly called the 'cartel system'—is the foe of full employment. It means the

3. Legal regulations and national economic policies related to the international sphere must take into account available alternatives and the possible effectiveness of public policies and regulations.²⁰ In this

defeat of democracy, and it will make a permanent and prosperous peace impossible. . . . We know that first we had the voluntary cartel system. That was followed by some degree of government participation or supervision, and that, in turn, led directly to the totalitarian state . . . the imperialistic policies represented by monopoly in the cartels inevitably destroy democracy, and that is the thing for which America and Britain are fighting. I say, let us get together and abolish this vicious principle in international law."—"What Should Be British and American Policy Toward International Monopolies?" *The University of Chicago Round Table*, No. 319, April 30, 1944, pp. 1 and 19, 20. Mr. Jerry Voorhis, Representative in Congress from California, writes: "This war is being fought to keep men free. The immediate danger to their freedom is tyrannical government. But after those governments have been defeated and destroyed, another menace to both freedom and peace as powerful in many cases as whole governments will remain. That menace is the cartel. . . . International cartels led the nations down the road to World War II and were as close to a primary underlying cause as any one factor in the world. . . . Domestic monopolies and international cartels threaten both freedom and peace."—*Beyond Victory* (New York, 1944), pp. 119, 120, 166. The Vice-President of the United States, Mr. Henry A. Wallace, in an address September 11, 1943, foresaw international cartels as a major obstacle to the achievement of political freedom and international peace.—*New York Herald Tribune*, September 12, 1943, p. 13. Mr. Wendell Berge writes that unless the threat of cartel control of world industries is understood and dealt with decisively, "the hope of maintaining democratic political institutions will be seriously impaired" (*Cartels*, p. iii). Cartels have, according to Mr. Berge, "obstructed and in no small measure thwarted the declared foreign policies of the American government, placing their own business interests above the public interests. . . . Cartels are in essence private governments which threaten to subvert and even engulf duly constituted authority."—*Ibid.*, p. 3.

²⁰ Mr. Justice Holmes put it thus many decades ago: "It is plain from the slightest consideration of practical affairs, or the most superficial reading of industrial history, that free competition means combination, and that the organization of the world, now going on so fast, means an ever-increasing might and scope of combination. It seems to me futile to set our faces against this tendency. Whether beneficial on the whole, as I think it, or detrimental, it is inevitable, unless fundamental axioms of society, and even the fundamental conditions of life, are to be changed."—*Vegelahn vs. Guntner*, 167 Mass. 92, 108 [1896]. "The trouble is that the individual obstinately refuses to remain an individual," writes E. H. Carr, *Conditions of Peace*, p. 72. The fatalistic attitude of several of his friends, attributing the trust movement to uncontrollable social forces and designating it the product of evolution, prompted General Francis Amasa Walker, one of the early experts on the combination problem, to write: "Some evolution is worthy of one's condemnation. Some evolutionists ought to be hanged." He compared the evolutionist view of his friends with those who are satisfied with the explanation that the modern train robber is merely the normal development of the old-fashioned, commonplace highwayman. Cf. Jenks, *The Trust Problem*, p. 8. See also Munroe, *A Life of Francis Amasa Walker*, p. 255. Professor Lionel Robbins presented the possibility of maintaining competitive international markets as dependent on political and legal measures. In his opinion private international marketing controls are tolerated "because men acting as political citizens have willed that [they] should exist." If we suffer from consequences of an economic system interwoven by marketing controls, "we suffer not from necessity but from choice."—*Economic Planning and International Order*, pp. 156-57.

respect European countries have quite different positions from that of the United States and Canada. Milo Perkins writes somewhat heretically about the United States the following: "There is little doubt that a sizable part of American business will want to join cartels after the war to protect its domestic market, and it is likely that popular opinion will back such a move exactly as it has backed the imposition of high American tariffs."²¹

4. As far as international economic policies, including currency and exchange arrangements and the control of business fluctuations, require stabilization of prices and balanced expansion of production, the alternative to government regulation of trade is the co-operation of private entrepreneurs.

5. Between intergovernmental commodity controls and independent private market arrangements there is a multitude of transitional patterns. Such intermediary arrangements may leave plenty of room for price and non-price competition of private entrepreneurs.

6. Buffer-stocks and the financing of private stocks is one of the most significant and little-explored methods of moderating fluctuations in raw-material markets. It would be useful to study how far these methods could be applied to other markets.

7. Consumer representation in executive bodies of international cartels is a measure generally advocated by those who regard international cartels as useful provided their economic power is checked. There is some confusion about the responsibilities of consumer representatives, their jurisdiction, and the methods of selection of private persons who could adequately represent consumers. Experienced economists have no illusions about the difficulties attendant on formulating international consumer policies. However, there are many items which could be formulated at least negatively, i.e., what a cartel should not do. In the opinion of this author, representation of consumer interest should be part of the jurisdiction of those international economic agencies which are in charge of safeguarding general public interest. The main difficulty of these agencies in performing their duties will not be to reach an agreement about their admittance to policy-determining bodies of cartels but the clarification of ideas as to the substance of policies which the cartel will be asked to pursue.

8. Home-market protection by international cartels should be subject to the express consent of the government to whose territory the protected market belongs.

²¹ *Op. cit.*, p. 574.

9. An international convention of governments should regulate the extent of possible territorial, quantitative, and other restrictions attached to patent licensing. An international economic agency as well as national governments should guard against the blocking or hampering of technological progress as a result of co-operation of private entrepreneurs. Reports of such agencies should be made public.

10. Restriction of all kinds of investments (including new plantations) should be excluded by an international convention from the jurisdiction of international private bodies.

11. Price discrimination, geographical and other, exercised by international private entrepreneur unions should in principle be made illegal by international convention. However, this item has to be carefully considered from the point of view of practical applicability. First, in a cartel in which competition operates at least moderately, rigid enforcement of non-discrimination policies may cause prices to become even more inflexible. Second, if national currencies are not effectively interchangeable at official rates, price differentials and price uniformity may give a delusive picture of the factual situation.

12. One of the most important requirements of future public cartel policies should be the maintenance of conditions which are not inimical to the entry of outsiders into the market. Just as democracy provides for protection from tyrannical majority groups, so should international conventions of governments provide for protection of outsiders from tyrannical measures of powerful cartel groups. The economic diagnosis that an outsider has little chance of faring well in a cartellized market must not induce governments to cut off creative entrepreneurs who intend to challenge such a diagnosis. Discrimination in the supply of raw and semifinished material to outsiders should be prohibited by international convention.

13. Private agreements of international scope concerning communication, transportation, explosives, armaments, and dangerous drugs should be subject to specific international public regulations.

14. In submitting bids to international public agencies, the bidders should be required to disclose whether they are co-operating.

15. National legislation may determine to what extent its entrepreneurs may be subject to arbitration and adjudication by private judicial bodies.

16. Technological research on national and international scale by public agencies may encourage potential outsiders and protect consumers.

17. All kinds of private boycott measures against countries should be prohibited by international conventions.

18. The restriction of trade barriers to an indispensable minimum is one of the most efficient measures against abuses of private monopolies. Though effective international currency arrangements in themselves are not directly operative against monopolies, there is no doubt that stable currencies and free capital movements make competition in international markets easier and monopolistic positions weaker.

19. Comprehensive, continuous, and publicly available marketing research by national and international agencies will in itself prevent the activities of many economic racketeers.

20. Discussions of cartel policies should clearly indicate whether the objectives of those policies are primarily national or international. Of course, there may be conflict between the two spheres.²²

The preceding suggestions indicate that unless international entrepreneur co-operation is prevented by the most drastic national measures of important industrial countries, agreement of governments is necessary to arrive at sound international cartel policies. No specific international agency is necessary for the study and supervision of private market controls. This can be entrusted to the general international agencies dealing with international trade.

It is obvious that the degree of co-operation in the field of international trade will ultimately depend on political co-operation of nations in general. Currency and investment policies, regulations of armament and disarmament, the restoration of devastated areas, colonial policies, economic sanctions against non-co-operative nations, all these will reflect on international cartel policies. International cartel-

²² Montesquieu's famous statement, "If I would know something useful for Europe and prejudicial to the human race, I would regard it as a crime," illustrates this point. Benedetto Croce, quoting this sentence, designates the German concept of the fatherland which is to stand *über alles* as an expression of "perverse and criminal feelings." Cf. "The Transformation of the German Idea," *Foreign Affairs*, July, 1944, p. 558. Bertil G. Ohlin suggests that governments should not give diplomatic support in business dealings of their nationals. He would like "to deal with economic problems in a business-like manner and to reserve outspoken national sentiments for sport competition and the like."—*International Economic Reconstruction*, Carnegie Endowment and International Chamber of Commerce (Paris, 1936), p. 156. The somewhat confused thinking on coinciding national and international interests is apparent from a remark of Roy Glenday, who writes: "Under the influence of war-time propaganda it has been forgotten that the primary aim of Mr. Cordell Hull's pre-war foreign trade agreement policy was to relieve American over-production by providing 'expanding markets for the products of the United States'—to quote the preamble of the Trade Agreements Act—not to promote world trade expansion."—*Op. cit.*, p. 261. Mr. Stacy May regarded the United States interests in international trade and the world interest as synonymous.—*Post-War Economic Policy Hearings*, Part 4, p. 1050.

lization will be greatly influenced by the extent of destruction of Europe and by factors operative in her political and economic reconstruction.

5

If the effort were made to force private entrepreneurs to co-operate in international markets, unless technological and other uncontrollable circumstances made such co-operation inescapable, it would probably meet considerable resistance. It would also reveal that economic rationality may lead to economic rivalry, co-operation, or something between the two. A multitude of circumstances influences the behavior of entrepreneurs. Immediate profit interest is one. The craving for social power is another. To investigate the conditions under which economic rationality operates in various directions is an unfinished task of social science. Possible conflicts between freedom of action of the entrepreneur and other socially desirable ends is a fruitful terrain for investigation in the future. What type of economic security enhances incentive and progress and what kind diminishes it is as yet an unexplored field of economic research. That is why, unless propositions remain so general that they do not express anything substantial, not many generalizations can be formulated in this field.

If in international political development the practice of old and new forms of "peaceful" warfare and political Darwinism is continued, causing general political insecurity and increased egotistic nationalism, future entrepreneur co-operation will follow the line of destruction. If in international political development the course is taken of nurturing the socially valuable capacities of nations and individuals, and of eliminating subrational social dogmas and restricting artificial trade barriers, future entrepreneur co-operation will neither stop nor hamper that development. If wisely administered, it may enhance it. The general level of social responsibility prevailing within a nation or in the international community will be accepted by entrepreneurs and their unions as well.

In this war democracy with its system of free selective governments has triumphed over dictatorially-regimented authority. It would be dangerous, however, to conceal the fact that modern democracy, though reinforced by new experience, is threatened by all kinds of pressure groups suppressing the individual. John Stuart Mill predicted a rather dark future for mankind in this respect. "In sober truth," he wrote in his essay "On Liberty," "whatever homage may be professed, or even paid, to real or supposed mental superiority, the general

tendency of things throughout the world is to render mediocrity the ascendant power among mankind. . . . At present individuals are lost in the crowd. . . . I do not assert that anything better is compatible, as a general rule, with the present low state of the human mind. But that does not hinder the government of mediocrity from being mediocre government. . . . In this age, the mere example of non-conformity, the mere refusal to bend the knee to custom, is itself a service."²³

The scope of this volume does not permit discussion of this problem as formulated by the great Utilitarian. There is little doubt that the justification of the free entrepreneur implies his will to enterprise in a genuinely free community. Free discussion of social issues assists the business executive in the harmonizing of his different responsibilities in various public and private collectives to which he coincidentally belongs. One of these collective groups is the national, another one the international community.

²³ *Utilitarianism* (New York, 1936), Dent Edition, pp. 123-24. Even a democratic government which disregards the positive sense of individual liberty, i.e., freedom of opportunity and equal opportunity, may make mediocrity supported by pressure groups the ascendant power. In such a framework pressure groups will control jobs, newspapers, and even public officials.

PART TWO

CASE STUDIES

CHAPTER I

Introduction

ANY STUDY of international cartels of necessity hinges on the reader's possession of a fairly large body of factual information. Such information must include a survey of the institutional frameworks within which these collective marketing controls operate. Part II of the present study, which contains information on individual commodities, is therefore the foundation upon which the more generally informative Part I stands.

In spite of their paramount position, the following case studies are presented with several reservations. An attempt has been made to show the extent to which international trade as a whole was affected by marketing control schemes, but many details are lacking. Several known marketing controls have been omitted because in the opinion of the author they would have enlarged the volume more than appeared feasible. The exclusion of agreements, for instance, on X-ray machines¹ or on grain disc separators² does not alter substantially the propositions advanced in the other cases. Several international cartels which operated in Central and Western Europe under agreements between France and Belgium; Belgium and Luxembourg; Austria, Poland, and Czechoslovakia; Germany, Hungary, Yugoslavia, Rumania, etc., are not emphasized here, as a rule, because their significance is chiefly limited to that region in which they operated.³ For the reader's convenience, however, a list of those Central European cartels

¹ See Bone Committee, *Patent Hearings*, Part 1, p. 233.

² The Hart-Carter Company of Minneapolis, the sole U. S. manufacturer of grain disc separators, made an agreement in 1938 with the English firm of Henry-Simon, Ltd., in Cheddle-Heath to divide export markets. See *The New York Times*, August 31, 1944, p. 9.

³ These Central and Western European cartels were often subentities within world cartels.

officially registered as required by law in Czechoslovakia and Poland appears in Appendix IX. There are a great number of additional international collective marketing controls about which general information is too scanty or unreliable. In many cases, secret agreements would come to light only if extensive studies of international markets of particular commodities and services were carried on. Although it would doubtless be impossible to exhaust the whole number of marketing arrangements and controls, a more complete presentation of case studies is certainly desirable.

The author has been willfully arbitrary in the method and form of analysis of the marketing controls selected. The reader may object to the inclusion of control schemes which are not exclusively dominated by private groups because they are government-controlled, as in wheat, or are considerably influenced by a "parent" company, as in corn products. They may be considered as intergovernmental commodity controls, combinations of the corporate type, or borderline cases. By his analysis of them, the author hopes the reader will become more aware of the essential elements that go to make up a typical cartel. Other control schemes such as those concerning pins, snap fasteners, etc., though insignificant in value of exports, are analyzed briefly because it seemed necessary to present them as samples of certain types.

The amount of space or information devoted to certain commodities may seem unwarranted at times. It is conditioned by the data available, the literature already in existence, the limitations imposed by the scope of the present work, and by other imponderables not easy to account for.

Doubts may be raised as to the degree of reliability of certain facts. This study shares the fallacies inherent in other case studies on international trade. The difficulties of assembling and verifying information were increased by war conditions. For reasons well known, entrepreneurs and their trade associations are somewhat reluctant to release information on marketing because of fears that it would damage their business relations.⁴ Entrepreneurs were even more reserved when these facts related to combination problems. Often newspaper reports, parliamentary material, court complaints, and other sources had to be resorted to without an opportunity to check directly with

⁴The statement of Wm. B. Bell, president of American Cyanamid Co., represents the opinion of one group of business men. According to a report in *Fortune*, Sept., 1940, pp. 66 ff., he stated that he was not in favor of publishing elaborate reports about his business. He said, "We know because we carefully study our competitors' elaborate reports."

business concerns. There is a well-established, almost universal habit indulged in by those accused of combining in restraint of trade not to answer such charges. Left unanswered, these accusations do not reach the stage of a fair hearing and remain stronger or weaker according to the predilection of the reader. In existence, however, are entrepreneurs and national and international trade associations who as a matter of course have made information accessible. But business ethics do not contain any rule requiring entrepreneurs and trade associations to divulge information about those marketing facts which are of paramount importance in international trade and to the public. Trade journals contain a wealth of material as yet little explored by research workers. Thus the facts presented here should be subjected to further study and verification.

It was not possible to evaluate the importance of every commodity in international trade. For the convenience of the reader Appendix III indicates the relative value of many commodities in the total value of export trade. A certain caution is necessary in interpretation of these values because several commodities of little monetary value are of great significance.

The eight categories in which commodities are grouped have been chosen simply for the sake of expediency. The classification of a commodity as a "raw material" or as a "chemical material" is not intended to have any special significance.

The abbreviations employed as a matter of convenience are given in the general index unless indicated otherwise.

CHAPTER II

Case Studies

FOODSTUFFS AND RELATED PRODUCTS

COCOA

Cocoa is the principal export of the British Gold Coast of West Africa. Considerable quantities of it are also exported from other regions, especially from Brazil, Nigeria, and the Ivory Coast. Smaller quantities are also exported from Santo Domingo, Ecuador, Venezuela, San Thomé, and Trinidad. The yearly world exports in cocoa amount to about 700,000 long tons, 40 per cent of which is consumed in the United States. There was no comprehensive collective marketing control in the buying or selling of cocoa until after the outbreak of the Second World War, when the United States Government worked out an import-quota scheme similar to the Inter-American coffee agreement.

The dramatic story of the burning of cocoa late in November, 1937, threw a spotlight on marketing activities on the cocoa market. This destruction of cocoa by the native growers and their associations on the Gold Coast of West Africa was a reaction against the establishment of an international buyers' cartel to whom the growers attributed the sharp decline in prices. It seems that in the summer of 1937 the principal buyers of cocoa on the west coast of Africa—principally the United Africa Company (a Unilever concern), an English chocolate company, and a French shipping company¹ established a buyers' cartel in order to exclude the services of local intermediaries and to remove the competition of small, independent buyers. The organization of this cartel coincided with a rapid fall in cocoa prices all over the world.² The local growers became greatly disturbed over the buyers'

¹ *Kartell-Rundschau*, 1937, p. 577.

² It should be pointed out that in 1937 cocoa prices were following the general trend of decline of most raw material prices on international markets.

organization facing them and began a sellers' strike accompanied by the burning of stocks. According to official reports, the maximum price paid to the growers in January, 1937, was 52 shillings per hundredweight. However, by September, 1937, the price had fallen below 30 shillings.³ The monthly average prices in cents per pound of spot cocoa on the New York Cocoa Exchange during 1937 were the following: January, 1937, 12.15; September, 1937, 7.78; December, 1937, 5.52.⁴ The British Government became greatly concerned over the unrest prevailing in the colony, and upon the request of the Gold Coast Government, in the fall of 1937, a Commission of Inquiry was set up. This Commission found that there was no conspiracy among the buyers to lower prices. However, on the recommendation of this Commission, the buyers' pool was suspended and the sellers were prompted to liquidate their stocks.

In connection with liquidation of the stocks, the government of the Gold Coast issued export licenses to the buyers based on their average exports of the last two crop years. Six per cent was to be retained by the governor for use at his discretion, to be exercised in favor of African shippers.⁵ One member of Parliament charged, in a question to the Secretary of State for the Colonies in a Commons debate, that independent firms who had refused to join the buyers' pool were allotted no quotas and were thus required to pay higher prices for cocoa. The Secretary of State for the Colonies, Sir Ormsby-Gore, answered that the price question was strictly a business matter.⁶

The Commission's report was submitted to the government of the United Kingdom in October, 1938. It contained a recommendation that the buyers' cartel should be replaced by a compulsory marketing control of the producers under governmental supervision. Public opinion in Great Britain preferred not to have Gold Coast cocoa prices bound too rigidly to other export prices, although co-operation was hoped for among the cocoa producers of different regions of the world.⁷ In 1938, British West African cocoa interests visited Brazil

³ British Colonial Office, *An Economic Survey of the Colonial Empire, 1936*, (1938), p. 524.

⁴ Accra cocoa prices in New York averaged, in 1937, 8.4; in 1938, 5.3; in 1939, 4.8 cents per pound.

⁵ *House of Commons Debates*, May 4, 1938, Column 864.

⁶ *Ibid.*, Column 865.

⁷ See *Report of the Commission on the Marketing of West African Cocoa*, Cmd. 5845, 1938. See also *The Economist*, Feb. 12, 1938, p. 360; and April 30, 1938, p. 258; Supplement to first quarter of 1939, p. 30. The cocoa market is thoroughly discussed in B. C. Meridian, "World Cocoa Production and Trade," *Foreign Agriculture*, Feb., 1941, U. S. Dept. of Agriculture.

to negotiate the formation of a joint cocoa pool.⁸ Nothing came of these efforts toward co-operation because of the general international political disturbances.

In 1933 the London Monetary and Economic Conference had likewise discussed the possibility of and necessity for an international agreement on the production and marketing of cocoa.⁹ On October 11, 1944, the British Secretary of State for the Colonies presented to Parliament a report reviewing wartime activities of the government's cocoa control and suggesting that this marketing scheme be continued after the war and enlarged to an inter-governmental commodity control plan. American importers of chocolate and cocoa as well as some British interests have announced their opposition to such a proposal.¹⁰

COFFEE

On April 16, 1941, the Inter-American Coffee Agreement was put into effect. This coffee agreement, which provided for collective marketing control, was established by a treaty among governments (Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Peru, Haiti, Ecuador, the Dominican Republic, Nicaragua, Venezuela, and the United States). The United States, the only participant which was entirely a consuming country, played a dominant role in this pact. The agreement is based on import quotas for the United States market and on maintenance of prices determined by the Inter-American Financial and Economic Advisory Committee. The character of the agreement was strongly colored by the desire of the United States to promote the economic well-being of Latin America. The Pan-American Coffee Bureau was established in Washington to administer this agreement. To classify this setup as an international cartel means solely that there are some features of it characteristic of cartels. In reality, however, these are overshadowed by non-economic features and considerations connected with the war. No attempt was made to force other than Latin-American nations to join this agreement. The outsiders, who do not actually compete at this time, represent only about 15 per cent of the world coffee production.

The basic annual export quotas for countries signatory to the

⁸ See "British Control Plan is Countered by Witkin with Program Based on Free Trade," *Journal of Commerce*, Nov. 1, 1944.

⁹ *Journal of the Monetary and Economic Conference*, July 25, 1933. Export problems of cocoa are discussed by F. Arcoleo, "International Organization of the Cocoa Market," *International Review of Agriculture*, 1939, pp. 51 E ff.

¹⁰ See "British Control Plan . . .," *Journal of Commerce*, Nov. 1, 1944. See also *Report on Cocoa Control in West Africa 1939-1943 and Statement on Future Policy*, Cmd. 6554, 1944, pp. 11 f.

Inter-American Coffee Agreement amount to a total of 27,157,000 bags of 60 kilograms net. The United States has an import quota of 15,545,000 bags. Of a total of 36 votes in the administration of the agreement the United States has 12; Brazil, 9; Colombia, 3; and each of the remaining countries, 1. There is no doubt that after the war this agreement, if it continues, will have to be adjusted to changed circumstances.

In the history of the combination movement coffee has played a rather conspicuous part. The burning of coffee and other destructive methods employed in Brazil have been mentioned as examples of the deterrent effects of capitalistic economies. Such an interpretation does not penetrate the substance of the problem.

Several unsuccessful attempts were made by governments to set up marketing controls in the period between the First and Second World Wars. One may safely state that the only partially successful attempt to influence the international coffee market before the Second World War was made by the Brazilian Government. The International Coffee Congress of 1931, the first Pan-American Coffee Conference of 1936, and the second Pan-American Coffee Conference of 1937 did not achieve any practical results.¹

CORN PRODUCTS

Hundreds of articles are marketed as corn products. Among these are four basic products, corn starch (an intermediate product), corn syrups, dextrin, and corn sugar.

Although only one large combination, before the Second World War, in the corn products industry existed, close co-operation among the several subsidiaries in the world was manifest. Whether or not this co-operation can be called an international cartel is doubtful, for the control mechanism was exercised by the parent company, Corn Products Refining Company, located in the United States. This company had affiliates in fourteen foreign countries. It is not clear how much the international agreements regulating the marketing of corn products relied upon close corporate connections for support. The greater share of the European business formerly centered in Germany, and a complicated understanding with Wilhelmstrasse existed in re-

¹ The world coffee economy is adequately treated in V. D. Wickizer's *The World Coffee Economy with Special Reference to Control Schemes*, Stanford University, 1943, and in the Inter-American Coffee Board, *First Annual Report*, April 17, 1941—September 30, 1942 (Washington, 1942), p. 138. See also J. D. Black and S. S. Tsou, "International Commodity Agreements," *Quarterly Journal of Economics*, August, 1944, pp. 527 f.

gard to non-interference by the German Government in combination policies.¹ Prior to 1940, the company is said to have divested itself of control of its subsidiaries in Germany by a sale containing a ten-year recapture clause.² Other companies within the combination were situated in Canada, Mexico, England, France, Germany, Czechoslovakia, Holland, Yugoslavia, South America, and Far Eastern countries.³

MEAT

Between the years 1935 and 1939 a collective marketing control among the exporters of certain kinds of meat, especially beef, veal, lamb, and mutton, was in effect. Because that marketing control operated within the framework of a public control mechanism established by diplomatic agreements it is questionable whether this co-operation may rightly be called a cartel. It related to one single market, that of the United Kingdom.

The Anglo-Argentine trade agreement of 1936 gave certain privileges to Argentine beef imports. At the beginning of 1937, an agency called the International Beef Conference began to operate in London under the terms of an informal understanding. The Conference regulated and allocated the supply of beef and veal among exporters of Australia, New Zealand, Eire, Argentina, Brazil, and Uruguay. At a later date, this conference was formally established by a written agreement, and the government of the United Kingdom appointed a special official to represent the interests of smaller supplying countries. According to the text of the agreement, its objective was to adjust supply to demand. The unanimous decisions of the conference were subject to the acceptance of the respective governments. Early in 1937 another "conference," the Empire Beef Council, was established in London, its purpose being to consider the Empire aspects of the international beef market. In December, 1938, this Empire Conference was empowered to consider problems of lamb and mutton imports and its name was changed to Empire Meat Council.¹ The entire international meat market was a subject of deliberation by the League of Nations' Economic Committee. This Committee in its

¹ *Fortune*, September, 1938, pp. 55 f.

² Bone Committee, *Patent Hearings*, Part 5, p. 2114.

³ *Fortune*. See also TNEC, *Monograph* 10, pp. 14 ff.

¹ See *The Economist*, July 30, 1938, p. 247; L. B. Bacon and F. C. Schloemer, *World Trade in Agricultural Products*, Institute of Agriculture (Rome, 1940), p. 189. (Hereafter cited Bacon and Schloemer, *Agricultural Products*.) This marketing control is discussed in League of Nations, *Circular*, II, E. 1067, March 15, 1939, p. 13. See also Black and Tsou, *op. cit.*, p. 528.

report to the Council said that it regarded an international agreement as necessary to solve the problems of the meat export market.²

SUGAR

Commercially produced sugar is derived principally from sugar cane and sugar beets. The introduction of beet sugar at the beginning of the nineteenth century changed completely the structure and division of the sugar market. The history of the attempts to introduce sugar produced from beets on the market is an interesting one. The earliest recorded endeavor is that of Franz Carl Achard, who in a memorandum addressed to the King of Prussia dated January 11, 1799, made the revolutionary announcement that he was able to obtain sugar from beets on an industrial scale. The details of his discovery were published in April, 1799. It is interesting to note that many people at that time regarded sugar production from beets on an industrial scale as a hopeless venture, and Achard's discovery met with little popular support for an extended period. Such famous chemists as Justus Liebig as late as the middle of the nineteenth century expressed skepticism about it,¹ but on the other hand many stories have related Napoleon's enthusiastic reception of the possibilities of beet sugar production. Dramatic descriptions of alleged attempts to suppress the technological progress resulting from the discovery of methods for producing beet sugar have subsequently been told. These reports are interesting today partly because they bring to mind similar contemporary accusations against industries concerning the suppression of technological progress. These accusations concerning beet sugar have been thoroughly disposed of in regard to Great Britain, but it is noteworthy that a comprehensive refutation appeared only in 1939.²

² See League of Nations, *Document*, 1933, II, B 5, pp. 4 f.

¹ See Edmund O. von Lippman, *Geschichte des Zuckers* (Berlin, 1929), p. 706.

² See Noel Deerr, "The Alleged English Attempt to bribe Achard," *The International Sugar Journal*, June, 1939, pp. 210 f. Noel Deerr's article mentions the following versions of these stories and the sources of them: In 1799 a German newspaper, *Preussischer Volksfreund*, carried a story according to which the English king attempted to induce the discoverer of beet sugar, Franz Carl Achard, to suppress his discovery by a reward of two thousand thalers and later of twenty thousand thalers. When Achard refused, the English ambassador offered him one million thalers and lucrative employment in London. The *Preussischer Volksfreund* praised the behavior of Achard with the following words: "But he took it like a German and refused both, and the Briton has wept bloody tears over the impending loss to his nation." Deerr offers evidence that the attempts to bribe Achard probably originated in refineries at Hamburg which were afraid that his invention would impinge upon their business. Another accusation appeared in the Gotha newspaper, *Allgemeiner Anzeiger der Deutschen*, May 27, 1811. According to that report, the famous German chemist, Wilhelm August Lampadius, refused "out of love for the Fatherland" "foreign" offers amounting to one thousand

Louis-Napoleon Bonaparte, later Emperor of France, was instrumental in propagating such indictments.³ These tales show that, at least beginning with the nineteenth century, the sugar trade was imbued with domestic and foreign political implications and was subject to pressure from various groups.

There is abundant literature dealing with reasons for the peculiar development of world sugar production and trade.⁴ Tendencies to be nationally self-sufficient, to take advantage of the soil-building properties of sugar-beet growing, the difficulties in finding substitute crops, and the pecuniary interests of groups politically influential were characteristic of that development.

International market controls in the sugar industry and trade represent blends of collaboration between governments and entrepreneur groups on the one hand and producer and consumer interests on the other. There is little doubt that governmental action was endorsed and influenced by entrepreneur groups and that entrepreneurial co-operation was effectively supported by governments.

guineas for the suppression of his improvements on the methods for making beet sugar. A third accusation appeared in a journal of Nürenberg, *Allgemeine Handelszeitung*, for 1819. This newspaper retailed a story told by De Gassicourt, an apothecary attached to the person of Napoleon I, according to which English troops after the battle of Waterloo on their way to Paris destroyed all the beet sugar factories in France in order to preserve the British monopoly in sugar.

³ In an essay dated from the Fortress of Ham in August, 1842, entitled "Analysis of the Sugar Question," Louis-Napoleon Bonaparte refers with great pathos to "the issue of a labyrinth, wherein so many interests cross one another in all directions." Discussing the attacks against the inventor of beet sugar, Achard, he wrote: "If I thought the invention of Achard opposed to the welfare of the greatest number, I would attack it, despite its imperial origin; I am a citizen in the first place, a Bonaparte only in the second." He criticized German and French conservative interests which were reluctant to explore the results of technological progress in the "indigenous" manufacture of sugar from beets. He commented on the alleged British attempts to suppress the competition of beet and cane sugar with the words: ". . . Whilst at Paris they turned beet-root to ridicule, the English took the matter in earnest and tried every means to stifle results at their birth." Bonaparte refers to the *Journal de l'Empire*, of April 11, 1811, which reported British attempts to force Achard to "publish a work in which he should state that his enthusiasm had led him astray; that his experiments on a larger scale had shown him the futility of his first essays; . . . The honour and disinterestedness which characterize M. Achard led him and most justly to decline the insulting offers." And because these efforts proved vain, the British, according to Bonaparte, "got the celebrated chemist, Sir Humphrey Davy . . . to write a *Treatise on Agricultural Chemistry* in 1815 to show that beet-root produced a *bitter sugar*, thus compelling him to sacrifice his conscience as a scientific man to his patriotism as a citizen." Cf. *The Political and Historical Works of Louis-Napoleon Bonaparte* (London, 1852), II, 1-7. For further discussion of these accusations, see Edmund O. von Lippmann, *op. cit.*, p. 702; and Noel Decr, *op. cit.*, pp. 210 f.

⁴ See Rowe, *Markets*, pp. 74 ff.; G. Mikusch, *Geschichte der Internationalen Zuckerkonventionen* (Berlin, 1932), *entire*; Kurt Wilk, "The International Sugar Regime," *American Political Science Review*, Oct., 1939, pp. 860 ff., etc.

The experiences gained from participation in combinations on the national and international markets in sugar might prove very interesting, although they are applicable to other cartel organizations only in a slight degree. The character of the world sugar trade makes caricatures of such propositions as the law of supply and demand, the principle of comparative advantage in international trade, the postulate of division of labor among nations, and traditional theories about the cost and price mechanism. Those who analyze the surprisingly great differentials between domestic prices of sugar in various countries must take into account the fact that taxes on sugar were an important source of public revenue and that currency relations make comparison difficult. Even apart from these factors, sugar prices show amazing variations. A comparison of retail sugar prices in various countries of May 1, 1938, is shown in the following Table 4.

The total volume of the world production of sugar displays violent fluctuations, as does the division of the production among particular countries. These fluctuations in the period between the two world wars are shown in Table 5.

The first international sugar regime, established in 1902, was based on a diplomatic agreement of the governments of thirteen countries. The International Sugar Union was established in 1902 in Brussels by seven of the thirteen countries participating in the agree-

TABLE 4
YEARLY CONSUMPTION AND RETAIL PRICES OF SUGAR IN VARIOUS COUNTRIES

Country	Per capita consumption in lbs. (raw value)	Retail price of refined sugar in U.S. cents per pound
Ecuador.....	21.7	2.54
Cuba.....	88.0	3.50
Switzerland.....	91.3	4.39
India.....	32.8	4.66
United Kingdom.....	110.9	4.67
United States.....	102.4	5.40
China.....	3.5	5.65
Japan.....	25.8	5.72
Australia.....	117.4	6.62
Norway.....	75.8	7.16
France.....	54.8	7.16
Czechoslovakia.....	60.6	9.47
Holland.....	64.2	12.24
Hungary.....	26.0	12.66
Germany.....	59.7	13.67
Italy.....	20.1	15.73

Source: *International Sugar Journal*, June, 1939, p. 245. See also U. S. Dept. of Comm., *Sugar Retail Price in 43 Countries*, Dec., 1938, p. 4.

TABLE 5
PRODUCTION OF CANE AND BEET SUGAR
(IN THOUSANDS OF SHORT TONS)

Crop Year	Exporting Countries	Importing Countries	Total	Cane Sugar	Beet Sugar
1921-22.....	12,255	8,577	20,833	15,311	5,522
1924-25.....	16,559	10,366	26,926	18,011	8,909
1928-29.....	19,132	11,733	30,865	20,633	10,232
1931-32.....	15,164	14,083	29,246	20,058	9,189
1932-33.....	11,830	15,315	27,145	18,759	8,386
1934-35.....	12,914	16,340	29,255	18,760	10,486
1937-38.....	17,046	18,954	36,000	23,904	12,096

Source: U. S. Cane Sugar Refiners' Association, *Sugar Economics, Statistics, and Documents* (New York, 1938), p. 95.

ment, Austria, Belgium, France, Germany, Great Britain, Hungary, and Italy. The Netherlands, Luxembourg, and Peru joined in 1903, Sweden and Switzerland in 1906, and Russia in 1907. Great Britain and Italy left the Union in 1912, the rest of the members co-operating until the beginning of the First World War. The Union was not formally dissolved until 1920. The principal purpose of the agreement was the abolition of all forms of public bounties connected with sugar export, and the list of the contracting governments shows that it was an agreement among exporting and importing countries. This interesting experiment in international economic administration has been regarded as comparatively successful.

After the termination of the First World War many attempts were made to establish co-operative agreements among sugar exporters under the auspices of governments. The League of Nations discussed such collaboration on several occasions. Meanwhile, sharp competition, which can rightly be called cutthroat competition, alternated with partial co-operation between national entrepreneur groups. Trade barriers and imperial preference regimes were counteracted by heavy dumping. Various kinds of direct and indirect subsidies contributed to the general confusion on the market. The development between the two World Wars of average prices of Cuban sugar best indicates the fluctuations on the world market. (See Table 6.)

In the middle of 1930 the price of raw sugar in London reached half a penny a pound. This development induced the sugar producers in Java, who had hitherto refused to consider joining a restriction scheme, to collaborate in an international agreement. European Continental sugar exporters also became more amenable to co-operation. Stocks of sugar grew larger and larger, and reduced prices did not

TABLE 6
AVERAGE PRICES OF CUBAN SUGAR IN CENTS PER POUND, C.I.F., NEW YORK

Year	Price	Year	Price
1918.....	5.49	1934.....	1.50
1923.....	5.49	1935.....	2.33
1928.....	2.43	1936.....	2.73
1930.....	1.47	1937.....	2.54
1931.....	1.33	1938.....	2.04
1932.....	0.93	1939.....	2.08
1933.....	1.22		

stimulate demand. After long negotiations national sugar cartels in Cuba, Java, Peru, Belgium, Hungary, Poland, Czechoslovakia, and Germany signed an agreement in May, 1931, which provided for a gradual disposal of surplus stocks over a period of five years, restricted current production, and established export quotas. The agreement provided for a common cartel agency at The Hague called the International Sugar Association. This so-called Chadbourne agreement, established for five years, was a private marketing control, but it was approved and enforced by the respective governments. The consuming countries and the countries producing large amounts only for home consumption remained outside the agreement.

The Chadbourne agreement did not have an immediate effect on the market. Export prices and consumption continued to decline. National governments in importing countries kept on building up their own sugar industries with little regard for the sacrifice involved. The situation remained fantastic from an economic point of view. While world prices disintegrated, national governments maintained high artificial domestic prices. The Chadbourne scheme, finding itself unable to cope with this condition, broke up at the end of the period for which it was made, that is, in September, 1935. It has been generally regarded as a dismal failure. It succeeded only in raising the price of sugar at a time when prices of other commodities were recovering after 1934. This control brought about some reduction in stocks, but importing countries raised production more than enough to offset the reduction in output by the cartel. Thus restriction was neutralized behind high tariff walls. The scheme did not retard the determination of almost all countries to produce their own sugar.

The lengths to which countries were willing to go to be self-sufficient is demonstrated by J. W. F. Rowe, who says: "The extreme case, I think, has been South Africa, which was at one time exporting

nearly 40 per cent of its total production at a price of about 8s. a cwt., and charging its home consumers 30s. a cwt. for the remainder in order to cover the total costs. Australia has been nearly, if not quite, as extreme."⁵ The Chadbourne plan failed because its participants did not control the market sufficiently to affect it. The world Monetary and Economic Conference of 1933 discussed world sugar problems in a separate subcommittee. A resolution, which contained nothing substantial, was passed, but it did recommend that the League of Nations should invite the countries concerned to convene with the purpose of reaching a general agreement. It is noteworthy that the government of the Irish Free State objected to the subcommittee's procedure because a private international cartel "which was a purely commercial body representing only sugar-producing interests" played the most important part.⁶

After the dissolution of the Chadbourne scheme a so-called *laissez-faire* period followed. It was generally recognized that neither private entrepreneurs nor governments of sugar-exporting countries were capable of solving the tremendous problems of the world sugar market.

On the formal initiative of the League, but with the prompting of the interested governments, an international sugar convention was convened, its first meeting taking place on April 5, 1937. This conference was successful. An international agreement was signed on May 6, 1937. In contrast to the Chadbourne Scheme this agreement was a diplomatic treaty between governments. According to its preamble, its principles were formulated "bearing in mind the principle laid down by the above-mentioned Conference that any international agreement for the regulation of production and marketing should be equitable both to producers and consumers." It was signed by the governments of South Africa, Australia, Brazil, Belgium, the United Kingdom, China, Cuba, Czechoslovakia, the Dominican Republic, France, Germany, Haiti, Hungary, India, the Netherlands, Peru, Poland, Portugal, the Soviet Union, the United States, and Yugoslavia. Canada promised to restrict new production though she did not actually sign this accord. The contracting governments were obligated to take legislative, executive, and administrative measures to execute the agreement. Furthermore, they promised to give favorable consideration to proposals for reducing disproportionate fiscal burdens of sugar, to encourage sugar consumption, to check the use of substitutes, and to explore the possibilities of new uses for sugar. The

⁵ *Markets*, p. 87.

⁶ *Journal of the London Monetary and Economic Conference*, July 20, 1933, p. 200.

United States made special arrangements concerning imports from the American territories and possessions. The United Kingdom likewise accepted particular obligations concerning restriction of beet sugar production and other arrangements within the British Empire. All exporting countries accepted quotas and the central governing body had a certain margin for increasing and decreasing quotas, depending on current market requirements. An International Sugar Council was established in London with a secretariat. The votes in the council were allotted in the agreement. The United States had 17 votes; the United Kingdom, including its possessions, 17 votes; Cuba, 10 votes; the Philippines, 1 vote; and the Netherlands, 9 votes. This agreement was disrupted by the war in 1939, although a skeleton staff in London continued to function as far as it was possible to do so.⁷ The agreement was supposed to remain in force until August 31, 1942. By an understanding of the governments of South Africa, Australia, Brazil, Belgium, the United Kingdom, Cuba, Czechoslovakia, the Dominican Republic, Haiti, the Netherlands, Peru, Portugal, the Soviet Union, the United States, and the Philippines as of July 22, 1942, the agreement was renewed for two years beginning August 31, 1942.⁸

It is difficult to judge how far the new sugar agreement succeeded. It operated during a period when economic conditions were influenced by the approaching war. One may state that the governments co-operated sincerely and that those countries trying to build up stock piles voluntarily surrendered export quotas to the Council. The quotas as published by the International Sugar Council in July, 1939, may be found in Table 7.

One of the most interesting chapters in sugar control schemes relates to the preferential regime within the British, American, French, Dutch, Belgian, and Portuguese empires. However, the discussion of these would transcend the purpose of the present study.

TEA

The two principal varieties of tea sold on the market are black tea and green tea. Over 90 per cent of all tea in the export trade is black tea. Over one billion pounds of both varieties are exported every year. The United Kingdom has played a leading rôle on the export market not only because it is the largest consumer of tea but

⁷ According to the *International Sugar Journal*, Oct. 1939, p. 371, down to Sept. 15, 1939, no government had applied to the Council for a suspension of its obligations, so the agreement is regarded as nominally operative.

⁸ *Miscellaneous No. 1* (1942), presented by the Secretary of State for Foreign Affairs to Parliament, Cmd. 6395, 1942.

TABLE 7
QUOTAS IN THE INTERNATIONAL SUGAR SCHEME

I. Free Market (in 000 metric tons, raw sugar value)	
Belgium (including Belgian Congo).....	10
Brazil.....	53
Cuba.....	811
Czechoslovakia.....	235
Dominican Republic.....	363
Germany.....	80
Haiti.....	31
Hungary.....	15
Netherlands and Colonies.....	1,010
Portugal, including Colonies.....	13
Peru.....	305
Poland.....	94
Soviet Union.....	161
TOTAL.....	3,182
II. British Preferential	
British Colonial Empire and Australia and South Africa.....	1,726

Source: *International Sugar Journal*, Sept., 1939, p. 333.

also because it re-exports more teas than most countries import. The buying of tea on the London market is concentrated in the hands of a few powerful combinations.

The Tea Cartel is an interesting example of a collective marketing control established by trade associations with the co-operation of governments. Publicity about the cartel is abundant and is one of the reasons why this discussion is limited to only the chief aspects of the cartel.¹ A more elaborate analysis of the tea cartel would have to take into account problems not generally discussed in connection with cartels, namely those of colonial administration and labor.²

One of the first voluntary restriction schemes was set up in 1920 to reduce large stocks and raise prices. The planters' associations of India, Ceylon, and the Netherlands Indies were members. It was

¹ See the yearly *Reports of the International Tea Committee* and its publications, *A Review of the Tea Regulation Scheme 1933-43*, and *The International Tea Agreement 1938-43 and Connected Legislation*, all published in London.

² *Indian Information*, Nov. 15, 1943, p. 284, reports that the total number of laborers on the tea estates of Assam was 590,000 men and women as well as 570,000 children. The average monthly cash earnings in the Assam Valley were: for men, Rs. 8-11-5; for women Rs. 7-2-10; and for children, Rs. 5-4-4; while in the Surma Valley the corresponding figures were: for men Rs. 6-15-0; for women Rs. 7-5-1; and for children Rs. 2-11. At the current exchange rates a rupee is equal to about 30 cents. These average cash earnings, however, are exclusive of "diet, rations and subsistence allowance." See *The Indian Labour Gazette*, Vol. 1, No. 3 (Sept., 1943), and *International Labour Review*, Sept., 1943, p. 379; and Nov., 1943, p. 653.

not renewed in 1921 because excessive stocks no longer pressed upon the market.

During the twenties, informal agreements to curtail production or limit exports were made from time to time.³ An international tea agreement was reached by the trade associations in India, Ceylon, and the Netherlands East Indies early in 1930. It was a voluntary scheme to curtail output and was not renewed after one year. In 1931 stocks continued to rise and prices to fall sharply following the general downward trend of the great economic crisis. An official report of the International Tea Committee declares that these prices were entirely unremunerative for producers. Early in 1933 the Amsterdam Tea Association, representing the most important tea growers in the Dutch East Indies, approached its sister associations in India and Ceylon with a suggestion that there be established a new international tea restriction scheme. The suggestion found ready acceptance. The associations enlisted the support of their governments and concluded an agreement which went into effect on April 1, 1933, to continue for five years. It was revised and extended in November, 1936, as of April 1, 1938, for five more years. In 1943 the members decided to continue the organization for the duration of the hostilities and for two clear quota years following the termination of hostilities.⁴

The International Tea Agreement of 1933 was signed by the Indian Tea Association (London), the South Indian Tea Association (London), the Ceylon Association (London), and *Vereeniging voor de Thee-Cultuur in Nederlandsch Indie* of Amsterdam, and *Nederlandsch Indische Vereeniging voor de Thee-Cultuur* of Batavia. These participants embraced the Indian, Ceylon, and Dutch East Indian national groups. Burma, which was then part of India, came within the framework of the agreement, but after its separation from India the government of Burma declined to adhere to the second agreement and since April 1, 1938, has been treated as a non-regulating country.⁵ In 1934, four British East African producing regions (Nyasaland, Kenya, Uganda, and Tanganyika) and Malaya joined the restriction scheme in so far as the limitations as to new plantings were concerned. In 1938 these East African colonies became members on such a generous basis that they were unable to fill their quotas.⁶ China, an important

³ Wickizer, *Tea Regulation*, pp. 60 ff.

⁴ International Tea Committee, *A Review of the Tea Regulation Scheme 1933-43*, p. 9.

⁵ The production of exportable tea in Burma is relatively small.

⁶ Since the British East African territories have not yet, according to Mr. Wickizer, passed the governmental decrees for licensing exports, they are not represented on the

exporter of some 50,000,000 to 120,000,000 pounds yearly, remained outside the agreement, though before the Chinese-Japanese war a kind of voluntary restriction scheme existed through the Chinese tea guilds. Japan, with yearly exports from 20 to 54 million, and Formosa, with 15 to 26 million pounds of exports yearly, rejected co-operation outright. French entrepreneurs in Indo-China, with exports from 1 to 5 million pounds yearly, did not join because the Cartel did not accede to their demands. The Portuguese Government refused to join the scheme "despite the assistance rendered by His Majesty's Foreign Office."⁷ Soviet Russia, which exported between 12 and 17 million pounds until 1938, when her exports decreased considerably, was not an important factor in the international market because her export policies were not aggressive and her imports always exceeded her exports. The International Tea Committee expressed concern about potential competitors on the export tea market in other regions of the world who took advantage of the regulated tea market without sharing the obligations imposed by the scheme.⁸

Although the international tea regulation scheme was officially called a private marketing control, it was actually a blend of private and governmental control. The success of the plan depended in no small measure on the legal sanctions imposed by colonial governments to implement the restrictions. Ordinances were passed by the colonial governments which compelled all growers and exporters to conform to the terms of the agreement. Furthermore, not only do the governments have representation on the International Tea Committee but they appoint all members of the ITC. However, four-fifths of these appointments require consultation with the planters' associations. The governments must also approve any changes in the scheme. The International Labour Office classifies it as being "in substance an intergovernmental agreement."⁹ The Annual Report of the International Tea Committee for the year April 1, 1939, to April 1, 1940, states that it would be desirable from a legal and political point of view to change the agreement from a private to a governmental agreement. *The Economist* expressed the opinion that this proposal was made as a result of pressure from the British Government and that the ITC was opposed to it. The proposed change has not become effective and apparently was either postponed or rejected.¹⁰

⁷ *A Review of the Tea Regulation Scheme*, p. 6.

⁸ *Ibid.*, p. 7.

⁹ ILO, *Intergovernmental Commodity Control Agreements*, p. xiii.

¹⁰ *The Economist*, April 10, 1943, p. 472.

According to the agreement, export quotas for each country were to be based on exports of one of three years—1929, 1930, 1931—which ever was largest in volume of exports. These standard quotas amount to 383,242,916 pounds for India; 251,588,012 pounds for Ceylon; and 173,597,000 pounds for the Dutch East Indies. The number of votes on the International Tea Committee was originally 38 for India, 25 for Ceylon, and 17 for Netherlands East Indies.

The International Tea Agreement was designed to adjust production so that after deduction for domestic consumption stocks would not be burdensome. Exports were bound by licenses and were limited to the quota agreed upon. The members of the International Tea Committee were to determine by voting the actual percentage of the standard quotas to be shipped. To assist it in this function the ITC was made responsible for the collection of statistics on production, exports, consumption, and stocks in all countries. No collective attempt was made to influence prices directly. Prices were the result of the sales made at the London auctions.¹¹ The exporting of tea seeds or tea plantings was prohibited.

The cartel authorized the International Tea Market Expansion Board in London to issue propaganda designed to increase consumption of tea.

At the beginning of the operation of agreement, in April, 1933, export quotas amounted to 85 per cent of the standard quotas. On April 1, 1934, the percentage was raised to 87½ per cent; on April 1, 1935, it was reduced to 82½ per cent where it remained until March 31, 1937, when it was again raised to 87½ per cent. On April 1, 1938, it was raised to 92½ per cent and on April 1, 1939, it was reduced to 90 per cent. On October 1, 1939, it was raised to 95 per cent. The war prompted the British Ministry of Food to take over the whole tea supply and fix prices according to the average price prevailing at the end of 1938.¹²

The movement of tea prices between 1930 and 1939 can be seen from Table 8.

The International Tea Committee considered both the establishment of a buffer pool and the implementation of the agreement through consumer representation. No decision was made on either

¹¹ Economists might well consider tea prices from the point of view of social policies. They might contemplate the effects on costs of production and prices if the wage level were to be raised in conformity with reasonable minimum standards of living and decent working hours.

¹² *The Economist*, February 17, 1940, Supplement, pp. 29, 30.

TABLE 8

AVERAGE TEA PRICES PER POUND, LONDON SALES (WEIGHTED AVERAGE OF ALL TEA QUALITIES IN ENGLISH PENCE)

1930.....	15.24	1937.....	15.18
1932.....	9.45	1938.....	14.38
1935.....	12.90	1939 (Jan. to Aug.)...	13.92
1936.....	13.07		

Source: *The Economist*, Supplement, February 17, 1940, p. 29.

of these questions. With reference to consumer representation, the committee rightly pointed to the very difficulty of finding the proper persons to represent the tea consumers of the world. It also favored the opinion that the support of the governments involved tended to give greater confidence in the scheme to consumers.

It may be interesting to note that the yearly expenditures of the International Tea Committee amounted to about £4,000, out of which salaries constituted £1700.

Changes in the administration of the agreement were made at the beginning of 1942 because of the occupation of the Dutch East Indies by the Japanese.

VEGETABLE AND ANIMAL FATS (EXCEPT WHALE OIL)

Fats and oils play an important role in international trade because they are necessary in immense quantities as basic or auxiliary materials in industries and for direct consumption. Vegetable oils are closely related to the production of shortening, soaps, and similar products. The production of fats and oils is concentrated in certain regions, and in many respects international trade in these two products was, before the Second World War, highly competitive. However, a network of combinations of the corporate type influenced production and trade. In this case as in so many others it is almost an impossibility to distinguish between collective marketing controls and other types of combinations. In addition to this problem, almost no material concerning the relationship of large entrepreneurs to each other is available. As one writer has remarked, "No other industry, perhaps, is quite so exasperatingly secretive about the simplest data as the soap and shortening industries. . . ."¹ The difficulty in distinguishing between combinations of the corporate type and collective marketing controls is visible in that section of the Report of the Directors for the year ended December 31, 1940, which deals with the relationship

¹ *Fortune*, April, 1939, p. 79.

between Lever Brothers and Unilever N.V. After discussing an agreement between the two concerning financial arrangements, the Report goes on to say: "Apart from this agreement, other agreements were made for obviating competition between the two Companies, for maintaining a common policy and exchanging technical and other information, for procuring raw materials and for securing the possibility of identical Boards."²

Characteristic of this whole trade is the substitution of one product for another.³ There is little literature about the marketing aspects of this industry.⁴

WHEAT

It is not at all likely that wheat will ever become subject to private international marketing controls unless strong concerted measures by the governments of exporting and importing nations support such a scheme. A great deal has been written about the wheat market and the attempts to restrict operation of "the law" of demand and supply in regard to wheat.¹ We wish it were possible to say that the primary goal of the international regulation was to guarantee to all peoples everywhere a minimum standard of subsistence. But the atmosphere of political insecurity and suspicion prevailing before this war was not conducive to such an end. Instead, national self-sufficiency, the obtaining of sufficient foreign exchange to maintain even a frail balance of payments, affording the farmer a reasonable income, and so forth, formed the weak foundations on which wheat

² "Report of the Directors," submitted to the members at the annual meeting for the year ending Dec. 31, 1940, for Lever Brothers & Unilever, Limited.

³ In a Congressional investigation of the synthetic rubber industry, it was suggested that Proctor & Gamble, through its connection with the IG-Standard Oil operation of Jasco was trying to monopolize the synthetic fat field. In reply, Mr. Frank A. Howard, Vice President of Standard Oil Co. of N. J., stated that the purpose of this large soap company was to "develop a commercial production of synthetic fatty acid so that if the imports of coconut oil were cut off they would have a source to turn to for coconut oil."—Truman Committee, *National Defense Hearings*, Part 11, p. 441.

⁴ See *Fortune* "Colgate-Palmolive-Peet Company," April, 1936, pp. 120 ff.; "Lever Brothers," *Fortune*, Nov. 1940, pp. 95 ff.; "Proctor and Gamble," *Fortune*, April, 1939, pp. 77 ff.; Karl Brandt, *The German Fat Plan and its Economic Setting* (Stanford University, 1938), *passim*.

¹ See the publications of the Food Research Institute of Stanford University, especially the *Wheat Studies*. See *A Guide to Wheat Studies of the Food Research Institute* (Stanford University, 1945), entire. The best comprehensive survey on the organization and operation of what agreements is contained in Joseph S. Davis, "New International Wheat Agreements," in *Wheat Studies*, November, 1942. See also Paul de Hevesy, *World Wheat Planning and Economic Planning in General*, London, 1940, entire. The yearly reports of the U. S. Secretary of Agriculture contain many important facts. Intercommodity competition in grains is discussed in N. Jasny, *Competition Among Grains* (Stanford University, 1940), entire.

control schemes were planned. Several governments have attempted in former years to influence the international wheat market by domestic restrictive measures. The best known among such artificial control schemes was that undertaken by Canada.² Other rather weak attempts were made by a "bloc" of governments in Central Europe.³ This is not the place to discuss restrictive measures of governments with reference to their domestic markets or the reasons which led to such measures.

At the invitation of the Secretary-General of the Monetary and Economic Conference, a meeting was held in London in 1933 at which the wheat exporting and importing countries concluded the International Wheat Agreement. This resolution was effected on August 25, 1933. The scheme was established by governments of wheat-producing and importing countries without direct reference to private entrepreneurs or their organizations. The proposal which led to the accord was initiated by the governments of the United States, Argentina, and Australia. The final draft was also signed by the governments of Belgium, Germany, Austria, Bulgaria, Hungary, France, the United Kingdom, Greece, the Irish Free State, Italy, Poland, Rumania, Spain, Sweden, Czechoslovakia, Switzerland, the Soviet Union, and Yugoslavia. Other governments were asked to join. The agreement was amplified by a Note of Agreement between the exporting countries, Canada, Argentina, Australia, and the United States, restating the position of these countries. Several governments signed the agreement with reservations which were circulated but not published. Ireland withdrew its signature. The accord provided for acreage reduction, determined export quotas, and endeavored to increase the consumption of wheat. The Soviet Union would not bind itself to restrict production or to keep within an export quota, but promised to co-operate generally.

The International Wheat Agreement was established for two years. Its organization virtually broke down within a year, although it was not formally terminated until its expiration date. After the first year, attempts were made to revise the agreement, but Argentina, after exceeding her quota, blocked these efforts. Although the net exports in the first year were ten million bushels short of the aggregate forecast on which the main agreement was based, prices did not respond to restrictions. The price development was the chief reason for the dis-

² Cf. Rowe, *Markets*, p. 52.

³ Cf. Dr. Milan Hodža, *Federation in Central Europe* (London, 1942), pp. 104-05. See also Black and Tsou, *op. cit.*, pp. 523 ff.

integration of the organization. The original agreement did not contain substantial provisions for international wheat prices. It was expected, however, that after the agreement was concluded, British import prices would average 63 gold cents per bushel. In reality, in the first year, they averaged only 43 gold cents per bushel.

The International Wheat Agreement provided for a Wheat Advisory Committee to supervise the working and execution of the agreement. Even when the original organization disintegrated, this committee continued its functions. Its secretariat propagated the idea of rejuvenating the agreement. The most significant discussions concerning a new agreement began in the spring of 1938. The Annual Report of the Secretary of Agriculture of the United States for 1938 contains the following note about these talks: "Our Government is doing what it can to persuade other wheat-exporting nations to join in what might be called an international ever-normal-granary plan; in a plan to stabilize the amounts of wheat offered on the world markets by each nation year after year."⁴

In the summer of 1941, the United Kingdom and the main wheat exporting countries met in Washington in what was called the Washington Wheat Meeting. The result of their discussions was a series of new agreements drawn up by the governments of Argentina, Australia, Great Britain, the United States, and Canada, dated April 24, May 18, and June 27, 1942.⁵ The provisions which were to be effective at once were those relating to the establishment of a pool of wheat for intergovernmental relief in war-stricken territories, to the restriction of production to prevent excessive stocks, and to maintenance of an administrative body to carry out the agreement. All other provisions (including those on exports and prices) were to come into operation after the war ended. Although the wheat marketing regulations contained certain features common to all collective marketing controls, the problems involved in wheat production, export, and marketing regulations are not at all the same as those of private collective marketing controls.

STEEL AND FERRO-ALLOYS

STEEL

In treatments of international cartels, marketing unions of steel exporters are typical for the cartel pattern. This fact accounts for

⁴ Joseph S. Davis, "New International Wheat Agreements," p. 27.

⁵ The agreements may be found in *Wheat Discussions at Washington*, presented by the Secretary of State of Foreign Affairs to Parliament, Cmd. 6371, 1942, and ILO, *Intergovernmental Commodity Control Agreements*, pp. 1 ff.

the amount of attention which is paid to them. Also, publicity concerning operation and organization was particularly good. In addition to the large world-wide cartels there were many minor steel cartels covering axles, screws, etc., which are not treated separately here. Publicity in regard to organization, quota, and price policies was in almost all iron and steel cartels fairly abundant. The following discussion is somewhat cursory because the author has recently written a detailed work on this subject.¹

Exporting steel producers represented by national steel cartels united in an association, commonly referred to as the International Steel Cartel (ISC), for the principal purpose of controlling the export market of steel commodities throughout the world. These entrepreneurs and their organizations were held together in the framework of the ISC through a network of economic mechanisms established and maintained by an intricate web of formulated and expressly sanctioned rules, by rules not formally sanctioned, by tacit understandings, by customs, by mere loyalties, and last but not least, by threats of retribution.

The exporter-producer was the simplest entity within the organization. "Pure" exporters, who did not produce the steel commodities they exported, did not participate as full-fledged sub-entities in the ISC. Distributors and distributor organizations played a very important role. They did not participate in policy-determining functions, but they were subject to those policies which in general concerned them.

The ISC was chiefly built upon two sets of agencies, national groups, on the one hand, and export sales comptoirs for specific commodities, on the other. The expression "national groups" denotes the organization of steel producer-exporters in various countries which negotiated general policies for the steel exports of their respective countries. They assumed responsibility in the cartel sense for a co-ordinated policy concerning these exports. Within the export sales comptoirs the national groups covered only particular commodities.

The expression "export sales comptoir" referred to individual international cartel organizations which embraced specific commodities (e.g., merchant bars, structural shapes, wire rods, rails). Tradition and agreements determined to what extent the ISC and its agencies interfered with the policies of an export sales comptoir. Some comp-

¹ Hexner, *Steel Cartel*. The International Rail Agreement, which is one of the most characteristic steel agreements, is included as Appendix VIII A.

toirs were subordinate to the parental organization; others were fairly independent.

For several reasons the International Steel Cartel did not concern itself with the marketing control of iron ore and pig iron. The marketing system for these materials did not fit into the marketing scheme for steel. Large international steel concerns produced their own iron ores or frequently bought them on long-term contracts from other entrepreneurs according to prices agreed upon on the basis of general conditions on the steel market. Prices and availability of scrap iron and steel naturally influenced greatly the "market" for iron ores. Generally speaking, business relations were not easily severed between sellers and buyers of iron ores, even if a price somewhat higher than that of another mine whose ores the steel plant did not customarily use was demanded. However, the relatively satisfactory operation of the International Scrap Convention made ISC members consider a buying organization for iron ores. In many respects pig iron remained a competitive market up to 1939, although many separate international cartel agreements existed (e.g., the Franco-Belgian-Luxembourg pig-iron cartel and the one involving Holland, Germany, and Czechoslovakia). It need only be indicated that often the lack of adequate tariff protection in regard to pig iron and iron ore made large international cartel agreements difficult. Entrepreneurs and countries strongly connected by cartels in the export steel market sometimes competed in the market of pig iron.

Typical ISC activities as culled from the terms of its agreements, from a knowledge of its practices and operations, are as follows: first, the establishment of a general marketing scheme for the steel export market and the establishment of agencies to administer that scheme and to amend it if necessary; second, the establishment of national organizations of steel exporters who controlled the steel exports of their countries; third, the establishment of marketing schemes for particular steel commodities and of agencies to administer them; fourth, the establishment of quota systems determining the sharing of markets of particular steel commodities by national exporting groups; fifth, the establishment of uniform pricing systems and the restriction of nonprice competition; sixth, the co-ordination of price policies among the different controlled steel products; seventh, the establishment of uniform selling conditions; eighth, the allocation of markets and customers; ninth, the stabilization of export prices within somewhat narrow limits throughout periods of business fluctuations; tenth, the organization of merchandising functions in important importing

countries; eleventh, the protection of the domestic market of each adherent; twelfth, the conclusion of "penetration agreements" with steel producers of non-member countries, fixing conditions under which the ISC penetrated the markets of producers who shared their domestic steel markets with the ISC; thirteenth, fighting or moderating outside competition; and fourteenth, the establishment of co-ordinated propaganda to promote the use of steel.²

The question of the degree to which steel cartel agreements or conventions provided for the exchange of technological experience may justifiably be raised. It is significant that unlike marketing controls in many other industries, those of steel were not based on patents and on secret technological experience. As a matter of fact, in the last two decades technological improvement in the steel industry has proceeded at a rapid rate. Neither national nor international cartel ties slowed up this development. The ISC did not regulate capacity and thus it was not concerned with limiting the main effect of technological progress. But even in those national cartels in which enlargement of plants was subject to domestic cartel restrictions these provisions did not hamper the introduction of improved processing methods. The relatively slow introduction of continuous strip mills in Europe was mainly due to lack of capital and to timidity as to absorption of large quantities of sheets. No accusations were ever made against international steel industries for abuses of patents or processing secrets.

The history of the ISC is complicated by the fact that the early organization was intended to serve a double purpose; first, to reduce competition on steel markets, and second, to adjust the steel industries of Continental Europe to the political and economic situation created by the First World War and by the peace treaties of 1919-20.

Even before the First World War there were international steel cartels among several European countries and also between American and European countries. However, there is a considerable difference between the earlier cartels and the ISC in that all former cartels were focused on a single steel commodity (tubular products, or rails, or wire products), whereas the ISC attempted to establish a general supernational marketing control in steel, one embracing all significant semifinished and finished steel products.

² The so-called charter groups (Belgium, France, Germany, Luxembourg) participated in all of the principal activities of the organization, whereas the associated national groups (Czechoslovakia and Poland) and the co-ordinated national groups (Great Britain and America) did not take part in all of them.

The historic development of the ISC may be divided into six periods. Throughout the first four, and one-half of the fifth period, it practically coincides with the history of the Continental European steel cartel. Until May, 1935, this cartel, the *Entente Internationale de l'Acier* (EIA), was indistinguishable from the ISC as a general steel policy-determining body. After this date, the European Steel Cartel (ESC), including the British adherents, was formed and likewise became the policy-making body indistinguishable from the ISC.

The first period in the development of the ISC dated from October 1, 1926, to October 30, 1929. Negotiations aiming at the conclusion of an international steel agreement started in February, 1926, at a meeting in Luxembourg. Five national units, Germany, France, Belgium, Luxembourg, and the Saar were represented by agents of their steel industries. International negotiations were advanced by the conclusion of an international cartel of European producers of heavy rails (ERMA) on March 12, 1926, in London. Because British producers joined the rail agreement, an opportunity to inform the British of the forthcoming general steel negotiations and to attempt to induce them, though unsuccessfully, to participate was presented.

Negotiations were put off several times because of the difficulties in organizing the Belgian national group. Finally on September 30, 1926, the five groups signed the International Steel Agreement in Brussels, establishing an international steel cartel, generally referred to as the first *Entente Internationale de l'Acier* (EIA), called also *Internationale Rohstahlgemeinschaft* (IRG), which embraced domestic and export markets and was effective for four and a half years, from October 1, 1926, until March 31, 1931.

In 1926 the five signatories of the EIA agreement, Germany, the Saar, Luxembourg, France, and Belgium, had a steel ingot production of about 28 million tons, whereas in that year United States production exceeded 48 million gross tons, and British steel production, because of the coal miners' strike in 1926, only amounted to a little more than 3½ million gross tons. Czechoslovakia, Hungary, and Austria together produced about 2½ million gross tons in 1926. Thus in a world production of steel ingots amounting to more than 90 million gross tons, the EIA as a whole played a relatively minor role compared with that of the United States. In 1926 EIA countries produced about 30 per cent, in 1927 about 32.5 per cent, in 1928 about 30.5 per cent, in 1929 about 29.5 per cent, and in 1930 about 30.5 per cent of all world steel. However, the significance of the EIA agreement lies in the fact that the EIA countries occupied a relatively dominant posi-

tion on the export market. In 1926 EIA countries accounted for more than 65 per cent, and in 1927-30 for more than 70 per cent of world steel exports.

On February 4, 1927, the Central European group, consisting of Austrian, Hungarian, and Czechoslovakian producers, entered the EIA, their membership becoming effective January 1, 1927. These three national groups were regarded as a single unit and divided among themselves the quota agreed upon for the unit as a whole. The quota allotted the Central European group (ZEG), 7.272 per cent, was added to the original quota, making the total quota distributable on a basis of 107.272 per cent instead of 100 per cent. Thus the total production allotment was considered equal to 107.272 per cent, of which 7.272 per cent was the ZEG's share. More than two-thirds of the ZEG quota belonged to Czechoslovakia. Several attempts to make Poland enter the agreement at that time were unsuccessful.

Negotiations for the entrance of Great Britain into the cartel were continued. Many of the Continental producers did not consider the adherence of Great Britain vital to the success of the cartel since Britain, working under relatively high production costs, was considered an inefficient competitor. Great Britain refused to accept the quotas offered her, deeming them too small. In addition, the domestic organization of the British steel industry at that time was not strong enough to co-operate in a large international agreement. The Bank of England's efforts to induce the British industry to enter the EIA were unsuccessful, due, as one source puts it, to its inability to overcome the individualism of British producers.

The first EIA agreement centered on the production of "crude steel." The management of the cartel was to determine the quantity of crude steel which the national groups were to produce in the forthcoming quarter. These quantities were based on a quota scheme calculated on the production of national units in the first quarter of 1926.⁸ The quota scheme was flexible and was adjusted to estimates of future market demand. National groups paid \$1.00 per metric ton actual output to a common fund in Luxembourg. Groups which produced in excess of predetermined quantities paid \$4.00 fine per ton of excess, whereas groups producing below predetermined quantities received \$2.00 per ton as compensation. Surplus funds were to

⁸ Because Germany regarded this reference period as less favorable to herself than to the other participants, a special sliding quota scheme was agreed upon conceding Germany higher and Belgium and France lower shares on that part of allotted quotas between 25,287,000 and 29,287,000 metric tons.

be liquidated first on April 1, 1927, and quarterly thereafter. After the deduction of general expenses, the funds were divided among the national groups.

The international steel market, after a short period of improvement, faced a transitory depression in 1927. In 1928 the situation improved on the export market partly because of the large credits placed by America in Continental Europe. After a relatively short boom period in 1929, the export market at first gradually and then with increasing rapidity contracted during the second half of 1929. In the middle of 1929 cartel members, anticipating the great depression, felt that the organization was insufficient for the maintenance of co-operation on the export market. Several proposals were made to establish export sales comptoirs for merchant bars, semifinished material, channels, and for plates, but the lack of organization within the Belgian group prevented success with reference to the extension of the cartel system to single commodities. The dissatisfied German group renounced the EIA agreement on May 1, 1929, so that it became ineffective at the end of October, 1929, coinciding with the Wall Street crash. The groups prolonged the EIA agreement reluctantly, but only from month to month, until January 31, 1930. These short prolongations of the agreement were signs of its disintegration.

On February 1, 1930, the ISC in a new form began the second period of its life. The member groups saw that it was not sufficient to organize and to regulate the market of steel commodities by an indirect approach relating to the production of crude steel. They realized that to make marketing on the export market efficient prices of specific commodities had to be agreed upon. They recognized as well that their interference with the domestic supply of the member countries did not operate satisfactorily, although they did not entirely discontinue this interference.

A set of rather weak export sales comptoirs was established by the EIA founder groups in order to control the exports of semifinished material, structural steel, merchant bars, hoops and strips, and plates by a uniform price system and by a system of quota shares. On March 13, 1930, an agreement was concluded with the Central European group (ZEG) by which they agreed to collaborate along these new lines involving specific commodity controls. The central administrative agency of the EIA in Luxembourg continued to operate as its co-ordinating agency during this second period, although on a reduced scale. The reference period for the establishment of export quotas for specific commodities was, with certain corrections, the vol-

ume of deliveries of the respective commodities between January 1, 1928, and October 31, 1929. These quotas were flexible, increasing or decreasing in proportion to the increase or decrease of the domestic sales of a member group as compared with the domestic sales of that group during the reference period. If domestic sales of a national group increased, the export quota of the group was decreased by 50 per cent of the domestic increase. Conversely, when and if domestic sales decreased, the export quota of the national group was increased by approximately 50 per cent of that decrease. However, the influence of the domestic market on the export quota could not exceed 35 per cent of the basic quota.

Even this new organization did not work satisfactorily. The reasons lay not only in the failure of the members, because of their mutual distrust, to strengthen the structure of the *comptoirs*, but even more in the continuing world economic depression and in circumstances accompanying the depression. The urge to export was so tremendous with the Belgian and Luxembourg group that they would not and could not be squeezed into limitations regarded as essential at that time by the other groups.

The third period began November 1, 1930, when the members agreed to proceed seriously with the control of the domestic and export steel markets according to the original EIA agreement, amended by a reduction of fines for exceeding quotas. During this period, lasting until the end of January, 1931, it became more and more obvious that the structure of the organization was still rapidly deteriorating. By March 1, 1931, no pretense at a general agreement in steel policies existed, and in the middle of 1931 the cartel was definitely liquidated.

The fourth period in the development of the ISC dates from March 1, 1931, to May 31, 1933. During this period no formal agreement as to general steel policy existed, although several attempts were made toward collaboration in particular fields.

During this period, when no general accord existed between the founder groups, the representatives of the respective steel industries often met at the meetings of the rail, tube, and wire cartels. They occasionally co-operated in particular business transactions in semifinished steel, bars, plates, etc.; although, as a rule they fought desperately with each other in noncartellized commodities. To be sure, sharp competition to a large extent was due to the producers' desire to keep their steel plants employed and to retain customers during the period of depression, as well as to their need for foreign exchange. In addition, a strong motive behind the fight for markets lay in the expecta-

tion that the next cartel, the organization of which was considered only a matter of months, would compute quotas based on the volume of past exports. A large export volume implied possible claims to larger quotas in the future. This assumption later proved correct and somewhat compensated the exporting groups for the losses they suffered in trying to maintain markets despite unfavorable price conditions.

In 1932 steel prices reached their lowest level, a situation which delighted consumers and terrified producers. Steel producers felt that there was no particular crisis in steel but that the export steel market was merely sharing the crisis in durable goods-producing industries. The fact that prices of cartellized steel commodities such as rails, wire rods, tubes, etc., declined only moderately indicated that the savage competition in other, unregulated commodities was as much responsible as the depression for bringing prices down below production costs. Several steel-importing countries reacted to the decline of prices by increasing their import duties. The former cartel members were greatly affected by the introduction of an *ad valorem* customs duty of 10 per cent in Great Britain on March 1, 1932, later increased for pig iron, semifinished steel, girders, sheets, etc., on April 26, 1932, to 33.33 per cent.

At the end of 1932 the old charter members of the EIA, Belgium, France, Germany, who also represented the Saar, and Luxembourg started negotiations to establish a new comprehensive marketing control. They were again hampered by the weak internal organizations of the French and especially of the Belgian groups. The lessons of former co-operation and non-co-operation were finally taken into account, and the following principles were gradually crystallized. First, the new agreement was to relate exclusively to the export market, disregarding the volume of output and domestic marketing conditions. Second, the quota system was to be extended to particular steel commodities, and prices of these commodities were to be regulated directly through export syndicates. Third, the cartel was to extend to organization of distribution, going so far as to establish or promote cartels among merchants in importing countries.

France, Belgium, Luxembourg, and Germany signed a general agreement in Luxembourg on February 25, 1933, which was to become effective as soon as sectional agreements involving six steel commodities—semifinished products, joists and channels, merchant bars, thick plates, medium plates, and universal steel—were concluded and put into operation. These sectional agreements, together with the second

general EIA agreement, became effective on June 1, 1933. This date marks the beginning of the fifth period in the history of the ISC, which lasted until the expiration of these agreements on June 30, 1938.

The establishment of strong national groups was a condition upon which the new cartel structure was based. Many months elapsed, in fact years, before the Belgian and French national groups attained adequate internal cohesion. They never acquired the degree of unity which existed within the German, British, and Luxembourg groups.

The 1933 arrangement consisted of a general agreement and a set of sectional or *comptoir* agreements, of which six were organically related to the main agreement. This general EIA agreement regulated the export of all steel commodities by evaluating them in terms of an agreed-upon amount of crude steel necessary for their production. Each commodity was assigned a crude-steel value per unit. The amount of crude steel involved in the production of all exported steel commodities was calculated and used as a basis for determining the quota of crude steel which each member of the EIA was to be permitted to export in the form of steel commodities. Thus all steel commodity exports, whether or not they were subject to particular controls through specific commodity *comptoirs*, were subject to general control through the crude-steel export-quota system of the EIA.

There were, therefore, two overlapping quota systems, one in the general agreement⁴ and the other in sectional (e.g., plate, merchant bar) agreements. If a commodity was included in a sectional agreement it was of necessity included in the general agreements, but not vice versa. For instance, exports of semifinished steel, heavy rails, structural steel, and wide-flanged beams were regulated twice; first, when the crude steel export quotas of the general cartel's members were applied to the crude-steel value of these specific commodities; and second, when the quotas of the specific *comptoirs* controlling these commodities were applied to them. Conversely, the export of black sheets, galvanized sheets, and cold rolled strips was influenced by the crude-steel export quotas of the EIA without being influenced (at that time) by specific quotas, since in 1933 no export sales *comptoirs* had been established for those commodities. British, American, and Czechoslovakian groups who entered the ISC after July 1, 1936, did not adhere to the general crude-steel export scheme. The operation of this scheme was suspended on July 1, 1936, and this suspension later resulted in the scheme's virtual abandonment. It was formally

⁴The working quota scheme is set forth in minutes taken at the meetings of the four member groups on April 25 and May 5, 1933.

abolished on the occasion of the renewal of the EIA agreement on July 1, 1938.

It would be false to assume that the EIA's principal function was to allocate the export of steel commodities according to a scheme of crude steel export quotas. The crude steel export-quota scheme was intended to be an auxiliary device and nothing else. The EIA's principal destination was that of a central co-ordinating and policy-determining agency for all national groups and export sales comptoirs.

Two conditions were prerequisite to the EIA agreement, first, that the four founder groups establish and maintain strong domestic steel cartels; and second, that the four founder groups establish six international export-sales comptoirs in semifinished steel, merchant bars, structural steel, heavy plates, medium plates, and universal steel. The EIA was to co-ordinate the operation of its national groups in regard to export-sales comptoirs, and further was to establish new export-sales comptoirs for steel commodities not yet specifically cartelized. It was understood tacitly that the EIA organization would co-operate with those export-sales comptoirs whose organization preceded the second EIA agreement (heavy rails, wire rods, wire products, tubular products). About the time of the EIA agreement two more comptoirs were started, one of major importance covering hot-rolled hoops and strips, and one of minor importance covering wide-flanged beams. Although these two cartels were not subordinate to the EIA they were intimately connected with it.

Great difficulties were encountered in trying to form the Belgian group into a cohesive unit. This was finally accomplished in May, 1933, just before the agreement was to go into effect.

In its fifth period the ISC developed in several new directions. It established several organizations of distributors in steel-importing countries. In this regard it followed the organization pattern of the German *Stahlwerks-Verband*, which in the first decade of the twentieth century started the establishment of merchant cartels and other distributor organizations in Switzerland, Denmark, Sweden, Norway, the Netherlands, England, and Belgium.

A turning point in the cartel's history occurred during this period with the adherence of Great Britain to the general ISC organization, by an agreement signed on April 30, 1935, and effective on May 8, 1935, for a tentative period of three months.⁶ On July 31, 1935, Great

⁶ At the end of March, 1935, the import duties on steel commodities were increased in Great Britain from 33 $\frac{1}{3}$ per cent (of their value) to 50 per cent in order to place the British industry "in a position to negotiate satisfactory agreements with its competitors . . ."—*The Economist*, March 23, 1935, p. 653.

Britain signed another general agreement effective for five years beginning with August 8, 1935, the date on which the first agreement expired. This agreement, upon the delayed fulfillment of several conditions, was made definitive in August, 1936. Poland, in a general agreement, joined the EIA on July 26, 1935. At the beginning of 1936 Czechoslovakia entered the EIA, though the negotiations regarding the terms of the Czechoslovakian agreement were not completed until early in 1937.

On August 1, 1936, after considerable effort one of the most important sales comptoirs, that for black sheets, was established, as was the export sales comptoir for galvanized sheets. The formation of these comptoirs made the network of the export sales comptoirs practically, though not entirely, complete.

The EIA by itself and together with the British group concluded penetration agreements with producers in those countries which imported steel products because of insufficient domestic steel-producing facilities. Among these agreements the one with South Africa was most important.

The entrance of the United States steel producers into the ISC at the beginning of 1938 crowned the cartel's structure.⁶ The ISC mechanism embraced practically the entire steel-exporting world and nearly all steel commodities when the fifth period of its history terminated on June 30, 1938. The rapid improvement in co-operation during this period was due not only to fortunate organizational adjustments but also to the gradual improvement, with minor setbacks, of the business situation on the international steel market.

The EIA agreement and many sectional agreements were to expire on June 30, 1938. Their extension was not particularly opposed save by the Belgian group. This obstruction was eliminated about the time of the expiration of the second EIA agreement. The agreement was then renewed and became effective on July 1, 1938. The new agreement greatly resembled the old one except for the formal exclusion of the crude steel export-quota scheme, which had not been in operation for several years.

The sixth period in the history of the ISC began on July 1, 1938, and ended when the organization disintegrated at the beginning of

⁶ On Jan. 19, 1945, the Department of Justice filed a civil suit in the U. S. District Court at Trenton, New Jersey, charging that eighteen American steel firms had conspired to fix prices and carry on monopolistic practices in the sale of stainless steel in violation of the Sherman Act. These activities did not refer to products regulated by the ISC and were in no way connected with the operation of ISC. See Department of Justice, Press Release, Jan. 19, 1945.

September, 1939, with the outbreak of war. The new agreement was intended to last until the end of 1940. During this sixth period American producers put their agreement on a more secure basis. In addition, on January 23, 1939, the comptoir for cold-rolled hoops and strips was established.

From the beginning of the ISC until its end, national groups concluded general and special agreements concerning mutual steel relationships among themselves and with steel producers outside the cartel. These agreements, which received little publicity, related mainly to domestic market protection and to mutual or one-sided deliveries. Naturally, they did not conflict with the ISC structure.

Within the last period of the ISC, the organizational changes which occurred in the cartel were those resulting from the political events following the invasion of Austria, Sudetenland, and the Tesin region. The German quota shares were increased by the ISC after the invasion of Austria in proportion to the export quantities of Austria. The problem of the Tesin region and the Sudetenland could not be solved so easily because the Czechoslovakian group resisted the flat abandonment of the proportion of its quotas represented by the exports of their lost plants. The invasion of Czechoslovakia in March, 1939, did not necessitate the immediate readjustment of quotas because the German group, either for commercial reasons or through embarrassment, did not require the dissolution of the Czechoslovakian group at the time. Thus Czechoslovakia remained a member of the ISC until its disintegration at the outbreak of the Second World War.

FERROSILICON

Ferrosilicon is iron of high silicon content which is used in the manufacture of silicon steels, in the electric reduction of copper, and for cast irons. It is produced principally in blast and electric furnaces. The silicon content ranges from very low to a high of 95 per cent.

The International Ferro-Silicon Syndicate was established in 1929. It was supposed to protect the home markets of the participants and to regulate exports. It united French, German, Swedish, Norwegian, Swiss, Yugoslav, and Czechoslovak producers. British producers adhered to the cartel according to a separate understanding. Production statistics were exchanged and arbitration procedure was provided for. According to a report of the League of Nations the syndicate had a virtual monopoly on the European market. Complaints were made that the syndicate charged high prices which led to the establishment

of ferrosilicon plants by several steel and chemical groups who became outsiders in Germany.¹ According to other reports the syndicate had several keen competitors in Sweden and Norway who made the existence of the cartel so precarious that it was prolonged only for short periods, sometimes for as little as two months at a time.²

In the fall of 1938 the agreement was prolonged to September 30, 1939. At that time, several Norwegian and Swedish outsiders were included. However, there still remained a few Scandinavian outsiders so the cartel members did not dare prolong it for longer than one year. According to a report of the League of Nations, an arrangement was made with American producers whereby territorial spheres of interest in exports were delineated and home markets reserved. According to this report the cartel controlled the whole of the world market.³

FERRO-TUNGSTEN

Ferro-tungsten is used as an alloy. In April, 1929, the ferro-tungsten producers of Germany, France, and England arrived at a convention concerning the allocation and distribution of the world's tungsten ore and concerning the regulation of exports of ferro-tungsten. The French, British, and German producers adhered to the international cartel through their national groups. Home markets were protected.¹

The principal source of tungsten ore is China.² However, Spain and Portugal also produce sizable quantities for export. Since the Japanese war, molybdenum and other minerals have been substituted for tungsten in the production of many tool steels.³

NON-FERROUS METALS

ALUMINUM

Aluminum is a versatile metal which possesses the valuable properties of electrical conductivity, high ductility, high thermal conductivity, resistance to corrosion, and high reflectivity for light and heat. Raw aluminum, sold mainly in ingots, may be rolled, forged, or cast into common commercial forms as well as powdered for use

¹ League of Nations, *Circular*, E. 946, June 5, 1936, p. 27.

² *Kartell-Rundschau*, 1939, pp. 53, 361.

³ *Circular*, E. 1067, March 15, 1939. See also *Kartell-Rundschau*, 1938, p. 640.

¹ Bone Committee, *Patent Hearings*, Part 5, pp. 2338, 2339; Ballande, *Ententes*, pp. 79 ff.; *Kartell-Rundschau*, 1936, p. 580.

² Eugene Staley, *Raw Materials in Peace and War* (New York, 1937), pp. 309 ff. (Hereafter cited Staley, *Raw Materials*.)

³ Leith *et al.*, *World Minerals*, p. 28.

in paints. Combined with other metals it forms an extensive range of alloys and is indispensable in mass production of airplanes. Thus it is an important material in both peace and war.

Metallic aluminum is usually extracted from the mineral bauxite, which contains from 50 per cent to 60 per cent aluminum. The most important requirement in the production of aluminum is an abundance of electric power at reasonably low cost. To produce one short ton of aluminum 20,000 kilowatt hours of electricity, about four tons of crude ore, and about 5 tons of coal, in addition to other materials, are used. Though the basic patents for producing aluminum expired many years ago, certain processes are still covered by patents and a good deal of the technological know-how is still secret.¹ From the inception of the industry there have been close financial connections between various aluminum companies. These intimate intercorporate relationships have naturally tended toward concentration and integration. There is abundant literature covering both the cartels and the corporate combinations in this industry.²

French, British, Swiss, and Canadian producers of aluminum first formed a cartel in 1901. Canada was represented in the cartel by the Northern Aluminum Company, subsidiary of the Pittsburgh Reduction Company. The cartel disintegrated in 1908 and was revived in 1912. Some time later Italian and Norwegian firms also became members. The newly formed Aluminum Company of America (Alcoa) entered the first combination indirectly by an agreement concluded September 25, 1908, between the Northern Aluminum Company, Limited, and the leading company of the cartel, the *Société Anonyme pour l'Industrie d'Aluminium*, of Neuhausen (Switzerland). This agreement remained valid despite the disintegration of the European cartel in 1908. On June 7, 1912, the District Court for the Western district of Pennsylvania heard the petition of the United States Attorney-General to enjoin Alcoa from pursuing illegal activities including participation in this agreement. In the resultant consent decree, Alcoa was perpetually prohibited from entering into any agreement that would restrict exports from or imports to the United States.³ The

¹ See Bone Committee, *Patent Hearings*, Part 5, pp. 2340 f.

² Donald H. Wallace, *Market Control in the Aluminum Industry*, Cambridge, Mass., 1937; *International Ententes*, pp. 31 ff.; TNEC, *Monograph 21*, p. 6911; in Magarin *der Deutschen Wirtschaft* (Berlin) [Aug. 1, 1929], pp. 1210 ff.; Alfred Gautschi, *Die Aluminiumindustrie*, Zürich, 1925; Dr. von Schoenebeck, *Das Aluminiumzollproblem*, Berlin, 1929.

³ The consent decree signed by Alcoa is reprinted in D. H. Wallace, *op. cit.*, pp. 547 ff. On Oct. 25, 1922, the decree was modified to permit the Aluminium Co.

second cartel, established in 1912, automatically disintegrated with the First World War. The third cartel, established in 1923, was based on price fixing agreements among big European producers. The fourth cartel, established November 15, 1926, was composed of French, Swiss, German, British, and other European producers.⁴ It chartered the Aluminium Association, with headquarters in Switzerland, and a special bureau to explore and propagandize new uses for aluminum. Experts in the League of Nations drew up a report analyzing these aluminum agreements up to 1930. It is interesting to note that in their opinion, this cartel reduced the number of middlemen and hence lowered distribution costs. According to the same report, "the constitution of the cartel has done away with sales of metal between producing countries, which necessitated the payment of customs duties and transport charges that were quite unnecessary and sometimes ridiculous—as, for example, when transports were proceeding simultaneously in exactly opposite directions." The same report emphasizes that the cartel had practically put an end to dumping by fixing prices.⁵ The cartel agreement did not regulate capacity and total output although it fixed quotas for domestic and export sales, and covered aluminum sold in the form of alloys. However, sales to North American markets were not regulated. According to D. H. Wallace, this agreement was ineffectual in preventing expansion.⁶ Competition

to purchase a subsidiary in Norway. After this, another antitrust action was brought against Alcoa in the courts of the United States. The brief to this action, filed Oct. 3, 1938, in the District Court, Southern District of New York, and the decision of the District Court which dismissed the complaint contain interesting source material. The law suit came to the Supreme Court of the United States by virtue of an appeal of the Attorney General. This court was unable to make a decision because of lack of quorum. The suit was therefore transferred for decision to the Circuit Court of Appeals of New York. This tribunal reversed, March 12, 1945, in the main the decision of the District Court and upheld the principal items of the complaint of the Government. Although the decision relates mostly to the domestic situation, it contains many interesting details concerning the relationship between the American and Canadian companies and between the Canadians and the cartel.

⁴ Broadly speaking the cartel developed as follows: a) 1901-1908, b) 1912-1914, c) 1923-1926, d) 1926-1930, e) 1931. . . .

⁵ League of Nations, *Review of the Economic Aspects of Several International Industrial Agreements*, prepared by A. S. Benni and others (Geneva, 1930), p. 28. (Hereafter cited Benni *et al.*, *Industrial Agreements*.) Louis Marlio, one of the authors, was also the president of the French aluminum cartel. The text of the agreement of the Aluminium Association contained the following guiding principles: 1) To regulate and control the aluminum sales of each of its members by exchange of market in formation, 2) to promote the use of aluminum, 3) to take care that consumers receive the needed quantities and qualities, and 4) to reduce overhead and transportation expenses.

⁶ *Op. cit.*, p. 306.

from Canadian outsiders disturbed considerably the policies of the cartel on export markets. For this reason the Aluminium Association approached the Canadians with offers of common marketing organization. These negotiations culminated in a new cartel (the fifth) in 1931 with the Canadians included as prominent members. The other participants were British, German, French, Swiss, and Norwegian producers of aluminum as well as their subsidiaries in Austria, Spain, and Sweden. The agreement of July 3, 1931, was called the Foundation Agreement and was signed in Paris. A special joint stock company was established to administer the agreement. The shares of the cartel agency, Alliance Aluminium Company (Alliance) which was incorporated at Basle, Switzerland, were distributed in proportion to production rates at that time. The capital of the company was 35 million Swiss francs; one quarter of the shares was paid for in cash, the rest in aluminum.⁷ The obligations of the members, under the agreement extended to their present and future subsidiaries. Investments in outside plants were prohibited unless a dominant influence in outsiders' facilities was acquired, and thus their adherence to the cartel was ensured.

Under the previous cartel there had been no regulation of output, with the consequence that the gains derived from cartelization were somewhat dissipated by unlimited expansion and production. This "weakness" was therefore corrected by the institution of production quotas fixed by the executive board every three months. The first quotas were the following: 28 per cent for the Canadians, 21.36 per cent for the French, 19.64 per cent for the Germans, 15.42 per cent for the Swiss, and 15 per cent for the British. One rather unusual provision in the agreement authorized the cartel to confiscate production without compensation if the production quota was exceeded by more than 5 per cent per annum. In the course of time the severity of this provision was relaxed.⁸ Sales territories were not allocated except that an agreement made in July, 1930, was reaffirmed according to which the exclusive sales agent for the Japanese market became the Canadian company with a share of 52 per cent in that territory.⁹ Members were forbidden to co-operate with outside plants through capital investments or technological experience unless they were able to exert significant influence upon those outsiders.

There is little doubt that the cartel members made certain agreements concerning their domestic price policies, although no such ex-

⁷ *International Ententes*, p. 33.

⁸ *Ibid.*, p. 34.

⁹ Borkin and Welsh, *Master Plan*, p. 212.

press provision in this regard was contained in the cartel agreement.¹⁰ Surplus stocks of aluminum were pooled and disposed of by the Alliance at prices determined by cartel agencies. These prices automatically became the minimum standard prices for all export sales of aluminum. World prices of aluminum were not published, but it is known that they decreased between 1931 and 1939. The monthly average prices of aluminum are the following: 99 per cent virgin ingot in cents per pound were approximately: in 1895, 58.66; in 1913, 23.64; in 1914, 18.63; in January, 1931 to January, 1934, 23.30; from February, 1934, to February, 1937, between 21.65 and 20.50; from March, 1937, to the end of 1939, 20.00.

Although the cartel did not control more than three-fifths of the world production of aluminum, it regulated practically the whole volume of exports. The largest "outsider" was Alcoa, whose exports were insignificant. At the end of 1935, negotiations took place between the cartel and the Soviet Union, another outsider. It is highly probable that an understanding was reached in which Russia promised not to disturb the controlled world market with large exports.¹¹

The German national group of the cartel announced in 1934 that it wanted to be freed from quota restrictions pertaining to domestic production.¹² The German Government intended to expand productive capacity for military reasons without regard to cartel policies. The other members strongly opposed the German suggestions. Ultimately, however, they agreed to a compromise by which Germany was allowed to increase her capacity on condition that for every ton exported she should buy from the cartel one ton for her domestic use. In addition, Germany agreed to increase her domestic prices of aluminum except for government supplies. This compromise did not work well and the cartel structure had to be reshaped effective January 1, 1936. The Alliance discontinued buying surplus stocks and setting minimum prices. Fines were introduced for those companies exceeding production quotas. Even this system did not operate successfully, and during 1936 the quota system was practically abandoned. The chief reason

¹⁰ See T. W. Stadler, *Kartelle und Schutzzoll* (Berlin, 1933), pp. 49 ff.

¹¹ Borkin and Welsh, *Master Plan*, p. 216.

¹² The German national group was dominated by the *Vereinigte Aluminiumwerke A.G.*, a government-owned company. German exporters often objected that the price policies of this firm completely disregarded public interest, being directed only to make corporate profits. One writer, criticizing the domestic price policies of that company, stated that if a privately-owned company would charge such exorbitant prices, the government would certainly intervene. Cf. Anonymous, in *Magazin der Wirtschaft* (Berlin, August 1, 1929), p. 1214.

for the disintegration of quota restrictions was the sharp demand for aluminum in anticipation of the needs of war. According to Joseph Borkin and Charles H. Welsh, Alliance has been dormant since about 1938,¹³ though the agreement was still nominally in force in 1939. Research and propaganda services of the cartel were centralized in a separate organization.

The relationship between Alcoa and the cartel has been the subject of much controversy. Alcoa transferred its European aluminum interests to its sister company Canadian Aluminum, Ltd., in 1928. The capital stock of the Canadian concern was distributed among the stockholders of Alcoa. The two companies continued to protect each other's markets. It is certainly no exaggeration to say that the two companies, while legally independent, always maintained close contacts. For that reason, many writers have felt that Canadian membership in the international cartel indirectly also bound Alcoa.¹⁴ It is probable that the cartel did not feel anxiety in regard to the operation of the American company on the export market. In fact, Thurman Arnold, the Assistant Attorney-General in charge of the Antitrust Division, claimed that Alcoa pressed its Canadian affiliate to join the cartel so that the mounting foreign output would not invade the United States market.¹⁵ It is noteworthy that, according to Joseph Borkin and Charles Welsh, the executive staff of Alliance consisted of two managers who for many years were in the employ of the Aluminum Company of America.¹⁶ The exports from and imports to the United States in aluminum are given in Table 9.

TABLE 9
U. S. EXPORTS AND IMPORTS OF ALUMINUM IN SHORT TONS

Year	Exports	Imports	Year	Exports	Imports
1931.....	2,350	7,416	1936.....	803	12,781
1932.....	2,218	4,092	1937.....	2,692	22,589
1933.....	2,853	7,623	1938.....	6,309	8,870
1934.....	4,183	9,296	1939.....	37,085	14,336
1935.....	1,985	10,646			

Source: Bureau of Foreign and Domestic Commerce.

¹³ *Master Plan*, p. 220.

¹⁴ TNEC, *Monograph No. 21*, pp. 70, 71. It is important to note that the decision of the Circuit Court of Appeals of March 12, 1945 (*U. S. vs. Aluminum Co. of America et al.*), concludes that Alcoa was not a party to the "Alliance" and did not violate the Sherman Act as far as foreign trade is concerned.

¹⁵ *Ottawa Gazette*, November 5, 1942.

¹⁶ *Master Plan*, p. 214.

BERYLLIUM

The so-called Beryllium Cartel was based upon a somewhat involved agreement between one German and one American group. These groups produced beryllium usually in the form of a master alloy of beryl ore and copper. The sale of the master alloy was accompanied by patent licensing. There was a territorial division of markets between Siemens and Halske in Berlin who subsequently turned over the business of producing beryllium to the *Deutsche Goldund-Silber-Scheideanstalt*. This concern was represented in the United States by its subsidiary, Metal & Thermit Corporation of New York, on the one hand and an American company, the Beryllium Corporation, on the other. The American corporation was allotted the sales territory of the Americas, the Germans reserved Europe for themselves, and the rest of the world was kept as common market. Under pressure from the British Government the Germans transferred to the American company the United Kingdom.

The whole complicated setup of the beryllium industry and the pertinent agreements are contained in the material of the TNEC.¹

BISMUTH

Bismuth metal, which is traded in bars, originates usually as a by-product in the smelting of lead and copper ores. It is used as an alloy of steel and aluminum and for the production of bismuth compounds and mixtures primarily used in medicines.

The collective marketing control of bismuth is listed among the first modern international cartels in the second half of the nineteenth century.¹ However, the cartel did not survive the First World War.

A new International Bismuth Convention, with headquarters in London, to regulate the export prices of bismuth metal was established in 1927. The participants were the bismuth producers of Germany, France, England, Switzerland, Czechoslovakia, and Holland. The convention was obviously under the influences of the London firms, Johnson, Matthey and Company and Mining and Chemical Products, Ltd.² The largest producer of bismuth bars has been Peru and the greater share of its output was exported to the United States. It is

¹ See TNEC, *Monograph No. 21*, pp. 95 ff., and TNEC *Hearings*, Part 5, pp. 2011 ff. The very interesting agreement which combines the transfer of patent rights with cartel-like control is contained as Exhibit No. 481 on pp. 2279-83 in Part 5 of the TNEC *Hearings*.

² A characteristic discussion of this marketing control may be found in Plummer, *International Combines*, p. 76.

³ Ballande, *Ententes*, pp. 43 f. See also Staley, *Raw Materials*, pp. 256 f.

not known whether any connection existed between Peruvian producers and the European cartel. According to the Czechoslovak Cartel Book there existed a separate international bismuth cartel for bismuth preparations, composed of British, German, French, Dutch, and Czechoslovak manufacturers. It regulated production, prices and trade terms.³

COBALT

Cobalt is a metal that is generally used as an alloy with steel. Cobalt oxide is used in the ceramic industries, and cobalt salts are used as a catalyst in the preparation of dryers for paints, varnishes, and linoleums. World production of cobalt in 1939 amounted to about five thousand long tons. The members of the International Cobalt Association were producers of the Belgian Congo (who accounted for one-third of the cobalt production) and those of northern Rhodesia, French Morocco, and Canada.¹ Though this cartel was formed to regulate production by quotas and to set up certain price standards, the overwhelming demand in the late nineteen thirties, probably due to the race for armaments, made such restrictions almost illusory. The seat of the cartel was at Brussels, and its administration was under the jurisdiction of the *Union Minière du Haut Katanga*. The permanent arbitration court of the International Chamber of Commerce was appointed arbiter in cases of controversy arising within the cartel.²

COPPER*

There have been international marketing controls established at various times in the history of the copper industry. Three international copper cartels operated successively during the period between the First and Second World Wars. Much has been written about all of these cartels except the last one.¹ This study, therefore, will mention the first two only briefly and will focus attention upon the most recent of them.

In 1918 one of what proved to be the most successful cartels (at

³ *Kartellbuch der Tschechoslowakei*, Karl Wolf and Jacob Ginsburg, (editors) (Prague, 1938), pp. 252-53. (Hereafter cited *Czechoslovak Cartel Book*.)

¹ *The Economist*, Feb. 18, 1939, p. 363.

² Ballande, *Ententes*, p. 188.

* This chapter is based on an article, published in the October, 1944, issue of the *Southern Economic Journal*, by Adelaide Walters. This excerpt is made with the permission of the publisher.

¹ See especially Alex Skelton's and Elizabeth S. May's articles in Elliott *et al.*, *International Control*, pp. 363-590. For more recent material see P. Lamartine Yates, *Commodity Control*, London, 1943. This book also contains a good discussion of other marketing controls.

least from the producers' point of view) was formed to liquidate the tremendous stocks of copper piled up as a result of the war and to regulate new production and exports. This cartel, wholly American in membership, was organized under the Webb-Pomerene Law. Called the Copper Export Association, it represented 95 per cent of the American output and was able to control the world market because the only outsider of any real importance at that time was Katanga, the Belgian Congo concern, which was only in the infancy of its development. The Association may be classified as an export cartel containing such features as a common selling agency (for exports), a fixed price for foreign sales, and allocation of shares for export. After the primary purpose of reducing stocks to a level with consumption (including liquidation of war supplies) had been achieved, dissension arose between the American companies with foreign properties and those with purely domestic properties. Finally, the Guggenheim interests withdrew and the cartel was disbanded in 1924.

Between 1924 and 1926 no formal marketing control ruled the international copper market. The history of the next cartel, named Copper Exporters, Inc., also a Webb-Pomerene Association, was a colorful one from its very inception in 1926 until its rather inglorious end in 1932. The members of the cartel, accounting for approximately 95 per cent of the world production of copper, represented not only American but also foreign copper interests. This was the first and last time that a Webb-Pomerene Association included other than United States members.² With a favorable market condition of low stocks and rising consumption the copper producers were in a strong position. Everything went along smoothly until the hectic boom period of 1928 and 1929, when the cartel resorted to rationing sales, thereby causing the buyers to bid the price up and up. Resentment against the cartel and particularly against the Americans who dominated cartel policies finally became so great that a buyers' strike was called. From then until the dissolution of the cartel in 1932, with the enactment of the United States excise tax on copper, the power position of the cartel steadily declined.³

At the London Monetary and Economic Conference in 1933 an attempt was made to find a workable basis for co-operation on the

² Cf. TNEC, *Hearings*, Part 25, pp. 131, 68 f.

³ According to E. S. May an effect of the imposition of the excise tax was to cut off American domestic producers from the cartel.—Elliott *et al.*, *International Control*, p. 582.

international market. Apparently nothing came of these efforts—at least there is no information available to the public on any subsequent developments. Occasional attempts were made by copper producers—American and foreign—to reach an understanding on some kind of co-operative marketing control, but no definite undertaking was launched until the International Copper Cartel was formed in 1935.⁴

In December, 1934, discussions leading to a cartel agreement were initiated by the European copper interests. After some months of negotiations in New York and London,⁵ the European and American copper producers signed an agreement on March 28, 1935, relating to copper on the world market outside the United States.⁶ The agreement was to remain in effect until 1938, at which time it was renewed until 1941. The resultant agreement consisted of a written statement of co-operation signed by all the participants, implemented by tacit and oral understandings among the participants and between the participants and certain outsiders not party to the agreement.

The parties to the agreement consisted of five full members and two participants who did not possess full membership privileges in voting and committee representation. As can be seen from the full list of the members below, the setup gave an equal voice to the United States and the British interests—i.e., two votes each—Katanga, the Belgian company, having the fifth vote. The names of the five full members of the cartel were the following:

1. Rhokana Corporation (British)
2. Mufulira Copper Mines, Ltd., and Roan Antelope Copper Mines, Ltd. (British)
3. *Union Minière du Haut Katanga* (Belgian)
4. Braden Copper Company—Chilean subsidiary of Kennecott Copper Company (United States)

⁴ TNEC, *Hearings*, Part 25, pp. 13213 ff.

⁵ *Ibid.*, pp. 13230 f. According to the testimony at the hearings, Mr. A. D. Storke, Managing Director of Roan Antelope and Mufulira Copper Mines in Rhodesia, telephoned Mr. E. T. Stannard, President of Kennecott Copper Corporation (and its Chilean subsidiary, Braden Copper Co.), to invite him and Mr. C. F. Kelley, President of Anaconda Copper Mines Corporation, with subsidiaries in Chile and Mexico, to discuss some form of co-operation on the copper market. Mr. Stannard suggested that the Rhodesian copper producers first make an agreement among themselves, then "compose their differences" with the Katanga, the Belgian Congo concern. Some time in the latter part of February, 1935, Mr. Storke telephoned New York again to say that they had solved the major difficulties and were ready to confer with the New York copper producers. The meetings in New York were harmonious and eventually culminated in an agreement.

⁶ The full text of the agreement appears on p. 436, Appendix VIII D.

5. Chile Exploration Company, Andes Copper Mining Company, Greene Cananea Copper Company—the first two located in Chile, the third in Mexico, and all three subsidiaries of Anaconda Copper Mines (United States)

The two minor members were:

1. *Compagnie du Mines de Bor*—a French-owned company located in Yugoslavia.
2. Rio Tinto Company, Ltd., a British-owned company located in Spain.

As indicated above, the United States' copper producers were not nominally parties to the agreement except insofar as they acted as representatives of their foreign operating subsidiaries who did join the cartel. The United States producer-member, the Kennecott Copper Corporation, however, who seemed to the European members most dangerous on the foreign market, limited its engagements as to exports in an informal understanding stating that "our general policy probably would be not to export very much copper in the near future."⁷ Various press reports at the time and later information on the cartel hinted that United States exporters were willing to cooperate to the extent of restricting exports from the United States to 8,000 or 9,000 tons of copper monthly.⁸ This rumor has been denied, however, by one of the American members,⁹ though events would indicate that there might be some justification for such an assertion.

The American custom smelters, with the exception of American Metal, were important outsiders and always something of a threat to the cartel because the custom smelter must necessarily relieve himself of supplies of copper in order to treat new supplies, no matter what the prevailing price. The United States secondary producers, who were recovering scrap, were outsiders and at times exerted a good deal of influence on the world market.¹⁰ Scrap copper, as mentioned above, was definitely excluded from the list of copper commodities subject to control under the agreement. Canadian copper producer-exporters are among the most important sellers on the international copper market. Although they did not become members of the cartel, they were considered friendly outsiders.¹¹ Canadian copper is

⁷ TNEC, *Hearings*, Part 25, p. 13237.

⁸ *Engineering and Mining Journal*, Vol. 136 (1935), p. 67; "Copper Drafts World Code," *Business Week*, April 6, 1935; *The Economist*, June 13, 1935.

⁹ TNEC, *Hearings*, Part 25, p. 13232.

¹⁰ *The Economist*, June 22, 1935, p. 1421.

¹¹ See Leith *et al.*, *World Minerals*, p. 183; *Business Week*, April 6, 1935, p. 36.

mined largely as a by-product of some other metal such as nickel, zinc, gold. According to some rumors Canadian mine owners did not wish to restrict the production of copper because it would necessitate a proportionate reduction of the primary accompanying metal. The Cerro de Pasco Company of Peru was also counted as a friendly outsider. According to one press report the company "was a party to the copper agreement on special terms not requiring reduction in output. . . ."¹² Producers in Russia and Japan were not considered significant since practically all of their output was consumed domestically. The remaining outsiders were small plants such as O'Keip Copper Company in South Africa, Boliden in Sweden, and Arghana-Maden in Turkey.

The regulation scheme of the cartel included the following items: production quotas, trade practices regulation, and exchange of information. At irregular intervals the cartel through its Control Committee was empowered to increase or decrease the standard quotas. The basic quotas were adjusted during the life of the cartel. The original agreement took cognizance of technological changes by providing a gradual increase in Mufulira's quota beginning in January, 1937, with a concomitant decrease in all other quotas except that for the Anaconda group which was to remain stationary. Again, when the agreement was renewed in 1938, Rhokana demanded and received an increased tonnage quota.¹³

The marketing control was further strengthened by the establishment of uniform trade practices and an arrangement which was designed to set up new regulations concerning trade terms. The most important provision regarding trade practices was that the members would sell only to consumers in order to restrict speculation and sharp price fluctuations.

Another auxiliary device for reinforcing the cartel was the maintenance of a statistical system through which the members were informed of each other's stocks on hand, sales for future or prompt delivery, and rate of production. The Copper Institute, with headquarters in New York, co-ordinated this exchange of information.

Each of the five central groups had equal representation in voting and on committees. The two minor participants were allowed access to all information and discussion.

Most of the executive and policy-making functions were vested in a Control Committee consisting of one representative from each of

¹² *Commercial and Financial Chronicle*, March 16, 1935, p. 1737.

¹³ TNEC, *Hearings*, Part 25, p. 13243.

the five principal groups. The remainder of the cartel functions was administered by a Trade Practices Committee which was also composed of representatives from the five main groups.

The period from 1935 to 1939 was characterized by generally expanding demand on the world copper market, due chiefly to a general improvement in business activity, especially in the heavy industries, and to the race for armaments of war. The trend of prices, in spite of a few setbacks, was generally upward. These prices appear in Table 10.

TABLE 10
YEARLY AVERAGE PRICES OF STANDARD COPPER IN LONDON
(SPOT QUOTATIONS IN POUNDS STERLING PER LONG TON)

1930.....	54.611	1935.....	31.867
1931.....	38.342	1936.....	38.441
1932.....	31.682	1937.....	54.465
1933.....	32.524	1938.....	40.707
1934.....	30.281	1939.....	42.689

Source: *Yearbook of the American Bureau of Metal Statistics* (New York), 1941, p. 36.

Although previous copper cartels had been charged with maintaining exorbitant prices, this cartel was never attacked in this way. The cartel claimed that it did not intend to fix prices, and maintained an "open-price" system of listing and reporting prices daily to its office in Brussels, where prices were cabled to New York. There is no proof that the cartel intended to fix export prices, but it wished to influence and stabilize prices within certain limits.¹⁴

What kind of collective marketing control, if any, will operate in the postwar period is an open question. It has been suggested that an international copper authority, subject to international governmental control, be established to regulate and allocate production.¹⁵

LEAD

Lead is a commodity marketed on commodity exchanges. Its price has always varied considerably. Between the two world wars there existed several agreements intended to restrict competition among the larger exporters by partially withholding supplies when the commodity exchange price reached a level unsatisfactory to the producers. Earlier lead marketing arrangements had been connected

¹⁴ According to a cartel member, the "consensus of opinion" among the participants was that all restrictions as to production should be removed when the price reached £45.—TNEC, *Hearings*, Part 25, p. 13242.

¹⁵ P. T. Ellsworth, *Chile: An Economy in Transition* (New York, 1945), p. 138.

with the International Zinc Syndicate since the two products, zinc and lead, are frequently produced together.¹

After the disintegration of the lead control scheme in 1932, due to the import duty levied by Great Britain, lead producers exchanged statistical information but did not collaborate in the regulation of supplies. On September 6, 1938, representatives of the largest lead producing concerns in the world met in London and established the Lead Producers' Association with headquarters in London. An official communique was issued about the meeting. The new regime was made effective November 1, 1938. At the very beginning, the standard production quotas were reduced by 10 per cent. The members of the agreement were lead producers of Burma, Yugoslavia, Australia, Canada, Mexico, and South America (Argentina, Peru). The United States producers participated in this agreement as in the copper marketing plan by acting as agents for their foreign subsidiaries who were direct cartel members.²

An account of this marketing arrangement was presented during the investigations of the TNEC in the testimony of Francis H. Brownell, Chairman of the Board of the American Smelting and Refining Company. According to him, the marketing scheme was a production plan. It was expressed in the provision that "whenever on the London Metal Exchange—which is a free and open market—. . . the price of lead, the average of spot and future, remains below £15 for a period of 20 market days in succession, automatically we put in a five per cent reduction of production and in lieu—if it were impossible, as it often was, to change our mine production—then we agreed to hold that amount of refined lead off of the market indefinitely, only to be sold when lead arose above £17 or £16—only a pound variation."³

Obviously, the preceding discussions about the agreement and the agreement itself had some influence on lead prices. Between June, 1938, and October, 1938, lead prices rose on the London Metal Exchange (spot quotations in pounds sterling per long ton) from £13.969 to £16.173. However, after the agreement was put into effect lead prices gradually decreased, rising again rapidly in August, 1939, under the threat of war. Beginning in September, 1939, the operation of the agreement was suspended. According to a report of the League of Nations, the agreement embraced 70 per cent of the world lead

¹ See about former lead control schemes, the study of Alex Skelton, in Elliott *et al.*, *International Control*, pp. 591 ff.

² *Minerals Yearbook*, 1938, 1939, p. 139.

³ TNEC, *Hearings*, Part 25, p. 13271.

production outside the United States.⁴ Monthly average prices of lead on the London Metal Exchange are given in Table 11.

TABLE 11
MONTHLY AVERAGE PRICES OF LEAD IN POUNDS STERLING PER LONG TON,
SPOT QUOTATIONS ON THE LONDON EXCHANGE

Month	1938	1939	Month	1938	1939
January.....	16.135	14.534	July.....	14.921	14.753
February.....	15.402	14.283	August.....	14.371	16.040
March.....	15.992	14.660	September..	15.249	.....
April.....	15.579	14.337	October.....	16.173	.. .
May.....	14.210	14.483	November....	16.088	.. .
June.....	13.969	14.564	December....	15.106	.....

Source: *Yearbook of the American Bureau of Metal Statistics*, 1941, p. 55.

One may express doubts as to whether the international lead arrangement of 1938 should be called a marketing "control." It may rather be assumed that it represented an attempt to prevent sharp price decreases and to remove production restrictions when prices rose over a certain level. Lord Keynes pointed to lead as a raw material fairly representative of those marketed under competitive conditions.⁵ According to *The Economist* the lead producers did not follow the restrictive measures decided upon and did not publish reliable statistics.⁶

MAGNESIUM

Magnesium is a valuable light metal which was not isolated in its pure form nor manufactured extensively until fairly recently. In 1938 the world production of magnesium was estimated to be about 25,000 short tons, but due to its value as a war material, present production is probably several times that. Magnesium, one of the few available light metals, may be used in making light alloys and in many cases may be substituted for aluminum. In addition, it is employed as a de-oxidant and de-sulphurizer of other metals. In its powdered form it acts as a source of light in pyrotechnic and photography.

Magnesium is produced industrially in the United States, Germany, Great Britain, France, the Soviet Union, and Japan.

Control of production and fabrication of this metal has been exer-

⁴ League of Nations, *Circular E. 1067*, March 15, 1939.

⁵ John Maynard Keynes, "The Policy of Government Storage of Foodstuffs and Raw Materials," *Economic Journal*, September, 1938, p. 451.

⁶ *The Economist*, March 25, 1939, p. 636.

cised through patent agreements. The most important of the patents were developed in the laboratories of companies located in Germany and the United States.

The United States began producing magnesium metal during the First World War. After the war, only the American Magnesium Corporation (AMC), a subsidiary of the Aluminum Company of America, and its competitor, the Dow Chemical Company, continued to make magnesium. In 1927, the two companies entered into a cross-licensing agreement. The American Magnesium Corporation then stopped its production of crude magnesium, arranging to buy it for fabrication from Dow at a preferential price.¹ Late in 1931, I. G. Farben and Alcoa established the Magnesium Development Corporation (MDC) to which they transferred their production and fabrication patents. This was the so-called Alig contract according to which magnesium production in the United States was alleged to be limited to 4,000 tons a year if the production patents were used. It has been stated that Alcoa and I. G. Farben instigated a mild patent infringement suit in 1932 to persuade the Dow interests to join them. A comprehensive licensing agreement was finally signed on January 1, 1934, by Alcoa, IG, and Dow Chemical. When charged by the Antitrust Division with limiting the output of magnesium in the United States according to the terms of the Alig contract, Mr. Dow, President of Dow Chemical Company, replied that he had never heard of the Alig contract, that he presumed the limitation of 4,000 tons had never come into effect since the production patents were never used by the Magnesium Development Corporation, and that only the fabrication patents were used by Dow. He also suggested that the patent suit against Dow may have been brought by the Magnesium Development Corporation to induce Dow to lower prices on its sales of magnesium to Alcoa.

On September 5, 1934, Dow Chemical and IG concluded a sales contract whereby IG agreed to buy certain quantities of magnesium from Dow at a preferential price and Dow agreed not to export the

¹ Bone Committee, *Patent Hearings*, Part 2, pp. 934 ff. Willard H. Dow, President of Dow Chemical Company, testified before the Special Committee of the United States Senate Investigating the National Defense Program (Cf. *Dow and Magnesium*, Pamphlet, published by Dow Chemical Company, 1944, p. 16), that AMC ceased producing magnesium of its own volition because it could buy it from Dow at a price lower than its own costs of production. He added that the large quantities bought by AMC eliminated certain service charges thus permitting them to sell at a lower price than to other customers.

metal to any other European customer except one British concern.² This contract came to an end in 1936.

Corwin Edwards, formerly of the Anti-Trust Division, alleged that restrictive practices were also used to limit licensees to a particular type of foundry operation, prohibit sublicensees from soliciting certain customers, and require licensees to buy the crude metal from Dow.³

The Justice Department brought suit against the combination mentioned above, charging the Aluminum Company of America, Dow Chemical, I. G. Farben, the American Magnesium Corporation, and the Magnesium Development Corporation with conspiracy to fix prices and monopolize the industry. In April, 1942, the American companies accepted a consent decree,⁴ though both American companies stated that only their preoccupation with war work prevented their fighting the case.

MERCURY

The outstanding exporters of mercury were, before the outbreak of the Second World War, Spain and Italy, though Mexico exported a few hundred tons annually. In Italy and Spain the companies producing mercury were either government controlled or government owned. The international mercury cartel called *Mercurio Europeo* was established in September, 1928, for four years, and in 1932 prolonged until 1936. The operation of the cartel was interrupted by the Spanish Civil War but started to operate again in May, 1939. According to Alfred Plummer, the cartel had an "understanding" with Mexican producers and thus there existed something of a monopoly on the world export market of mercury.¹ The seat of the cartel was, at first, Lausanne (Switzerland). Later it alternated between Rome and Madrid according to the residence of its chairman. The cartel established a quota system and uniform prices. Italy had about 40 per cent and Spain about 60 per cent of the export quota. Domestic markets, of course, were reserved. The agreement contained a very complicated system for arbitrating disputes. At the beginning, the cartel set up a

² Statement before the Senate Committee, Investigating National Defense Program, published in *Dow and Magnesium*, pp. 57 ff. One process of producing magnesium was developed by the Austro-American Magnesite Company at Radentheim, Austria, and purchased by the Magnesium Metal Corporation in Great Britain. (See Sir Gilbert T. Morgan and David Pratt, *British Chemical Industry* [London, 1938] p. 128) Thurman Arnold has declared, however, that Great Britain was dependent upon Germany for 40 per cent of its magnesium because of licensing agreements.—Bone Committee, *Patent Hearings*, Part 2, p. 976.

³ Military Affairs Committee, *Monograph No. 1*, p. 31.

⁴ Bone Committee, *Patent Hearings*, Part 5, pp. 2333, 2352.

sales comptoir in Lausanne which was soon discontinued in favor of a system of exclusive sales agents in England, Germany, Switzerland, Japan, etc. Finally, the firm of Roura and Forgas in London became the exclusive sales agency for all exports. This firm advised the cartel as to price policies. When the cartel suspended operations due to domestic disturbances in Spain in 1936, the Amalgamated Merchants, Ltd., in London, became the Italian sales agent and a separate firm was registered as the Spanish sales agent but with the same address. During the Spanish Civil War, the exporting of quicksilver was subjected to severe governmental restrictions in Spain. After the resumption of cartel activities in May, 1939, Roura and Forgas in London again became the exclusive agents of and advisers to the cartel. In September, 1939, the cartel stopped using London as its selling center and tried to sell from Brussels. At the beginning of 1940 the central sales agency was again transferred to London and then, after a brief period, the two cartel members began selling directly. There are reports that in March, 1940, a new common selling agency was set up in Switzerland.²

Since mercury is used as a detonator in explosive charges and in mercury vapor and fluorescent lamps, in addition to its use in the manufacture of mercury salts, the prices of mercury rose rapidly after the beginning of the Second World War. The price policy of the cartel is illustrated by the following quotation of the editor of *The Mineral Industry*, who asserts that much of the increase of price since September 1, 1939, is "in following the good old-fashioned principle of making prices all that traffic will bear." He argues that prices ranging from \$150 to \$200 per flask were not justified by the conditions of the market "but are largely the result of a profit-taking policy on the part of the cartel." In comparison, it should be noted that the Italian domestic prices, even after being raised in February, 1940, were still only 1400 lire per flask, or approximately \$71.³

MOLYBDENUM

Molybdenum is a silvery-white metal which is recovered from molybdenite, very often as a by-product of copper or other minerals. It imparts a toughness to high-speed steel alloys. Molybdenum is also used to a lesser extent in the chemical field.

A large part of the world's production of molybdenum comes from the United States. A rather loose cartel arrangement existed in regard

² See *Minerals Yearbook* 1939, 1940, pp. 674 ff. See also Ballande, *Ententes*, p. 200.

³ *The Mineral Industry of 1939, 1940*, p. 405.

to the sale of products manufactured from molybdenum in which I. G. Farben and a number of French and British manufacturers were connected with the American suppliers of the raw material, Climax Molybdenum Company, Molybdenum Corporation, and Greene Cananea Copper Company. This agreement was made in 1936 and was to remain in force until 1940.¹ Today the molybdenum market is naturally completely dominated by the circumstances attendant upon the Second World War.

NICKEL

Nickel production on a large scale existed before the Second World War only in Canada, New Caledonia, Soviet Union, and Finland. Before the First World War there were some price agreements in effect for a time between the French entrepreneurs of New Caledonia and the Anglo-Canadian-American group of Canada. After the War, the monopolistic position of the International Nickel Company, Ltd., of Canada, in regard to the mining and refining of nickel was uncontested. There is a world-wide producing and marketing organization centered in Canada and in London. The London organization is in the hands of Mond Nickel Company, Ltd., which controls the English subsidiaries and which dominated the Petsamo mines in Finland until they were sold to the Soviet Union. Any control in the nature of collective marketing is overshadowed by the corporate connections existing among subsidiaries and associated companies. The dominant position of International Nickel is clear from the fact that the next largest producer (New Caledonia) was able to produce only about one-tenth as much ore as the former. Whether any understanding as to prices or other business conditions between these two groups existed is unknown, but it seems unlikely. In the United States, the spot price for nickel was maintained at thirty-five cents per pound over the last eighteen years.¹ However, on the London market, the pre-war price of £172.5 per long ton was maintained up to 1931. When England went off the gold standard, nickel prices were adjusted to the depreciation of the pound. In 1933, the price was lowered from £240 to £225 per ton. From May, 1934, to the end of 1936, prices moved around £200, and on January, 1937, they were reduced to £180.²

Mond Nickel Company, Ltd., had certain agreements with IG relating to nickel supplies. Mond Nickel agreed to supply IG with

¹ Bone Committee, *Patent Hearings*, Part 5, p. 2347.

² *Yearbook of the American Bureau of Metal Statistics 1941*, p. 100.

³ Plummer, *International Combines*, p. 78. On p. 79, Plummer has published a chart on the corporate organization of International Nickel Co., Ltd., of Canada.

nickel concentrates up to 10 per cent of total world sales, while IG agreed not to buy nickel from any other source—not even to become “interested” in nickel ore mines.³ Mond Nickel and IG also had an agreement relating to patents on refining processes and nickel powder.⁴

PLATINUM

Platinum is a precious metal which is characterized by a high melting point. Not only platinum itself but the whole group of allied metals (palladium, iridium, rhodium, ruthenium, and osmium) are valuable. The uses for platinum have been increasing rapidly in the last decade. Platinum metals are chiefly used in jewelry, in dentistry, and in the chemical and electrical industries. Since the First World War, and even in the last ten years, great changes have occurred in the production and sources of platinum. Before 1914, over 90 per cent of the world's platinum originated in Russia. Since 1934 by far the largest producer is the International Nickel Company, Ltd., of Canada, which produces platinum and allied metals as a by-product of nickel. The improvement and development of metallurgical processes by which platinum may be recovered as a by-product of nickel, gold, and copper have been responsible for the great overall expansion in platinum production. In 1938 about 75 per cent of the total supply was recovered as by-product in the refining of gold, nickel, and copper, whereas in 1929 by-product platinum amounted to only about 17 per cent. World production totaled some 230,000 ounces in 1929 and 540,000 ounces in 1938. In 1938, production was distributed approximately as follows: Canada, 54 per cent; U.S.S.R., 19 per cent; Union of South Africa, 11 per cent; United States (chiefly Alaska), 9 per cent; Colombia, 6 per cent.¹ Statistics on production and international trade of platinum are not entirely reliable because Russia for some ten years has issued no figures on production, exports, or imports of platinum.

The refining of platinum has centered chiefly in the United Kingdom and Russia, although, because of war, more metal is now refined in the United States. This should make for greater efficiency because the bulk of Alaskan and Canadian platinum no longer needs to be shipped to England, refined there, and re-exported to the United States.

Changes in production accompanied by wider use of the platinum metals are reflected in the international marketing controls relating to

³ Bone Committee, *Patent Hearings*, p. 2347.

⁴ *Ibid.*, p. 2348.

¹ *Minerals Yearbook* 1939, p. 757. See also *The Mineral Industry*, 1940, pp. 490 ff.

platinum. After the First World War a quota and sales cartel was formed with English, Russian, Canadian, South African, Colombian, German, and French members. Soviet Russia withdrew in 1927 and became a strong outsider. The cartel did not succeed in maintaining a satisfactory price for platinum, especially after the withdrawal of Russia.

On October 21, 1931, the cartel was re-established on a new basis. The London firm of Consolidated Platinums, Ltd., was organized as a central agency to administer the activities of the cartel. According to Alex Skelton, the division of production quotas was as follows: Russia, 50 per cent; Canada, 26 per cent; South Africa, 15 per cent; and Colombia, 9 per cent.² Cartel policies were strongly influenced by the following groups: Mond Nickel Company, Ltd. (a subsidiary of International Nickel Company of Canada, Ltd., and owner of the Acton Platinum Metals Refining Company), Johnson, Matthey and Company, and New Consolidated Goldfields, Ltd., of Great Britain, the London official trade agency of the U.S.S.R., the *Edelmetalle-Vertriebs A.G.*, of Germany, Johannesburg Consolidated Investment Company, Ltd., of South Africa, and *Compania Minera Choco Pacifico S.A.* of Colombia.³ Obviously, cartel activities were not limited to restriction of production which offered special difficulties when applied to by-product platinums but extended to influencing the price policies of refined platinum.

It seems probable that Consolidated Platinums, Ltd., ceased to exist about 1933. From that time onward, the production of International Nickel rapidly increased in proportion as its nickel production increased. Since the Canadian platinum metals were marketed through Johnson, Matthey and Company of London, and Baker and Company of New York, it appears likely that these companies exercised considerable influence over platinum prices. The London quotations vary somewhat more than the New York quotations, a fact that is probably due to South African shipments to London also marketed by Johnson, Matthey and Company, though these quantities are scarcely large enough to exert much influence on the market. Palladium, also produced by International Nickel, may be substituted for platinum, but was not under cartel control.

² Elliott *et al.*, *International Control*, pp. 152-53. Probably one reason for the relatively small share allotted Canada was that during the depression years nickel production was very small, and therefore platinum production was small, too.

³ See Ballande, *Ententes*, p. 207.

TABLE 12
AVERAGE MONTHLY PRICES OF PLATINUM AT NEW YORK
(IN DOLLARS PER TROY OUNCE)

1930.....	45.358	1935.....	34.15
1931.....	35.665	1936.....	42.926
1932.....	36.455	1937.....	51.773
1933.....	30.993	1938.....	35.901
1934.....	36.465	1939.....	36.748

Source: *The Mineral Industry*, 1940, p. 494.

RADIUM AND URANIUM

Uranium ores from which radium is extracted are mined principally in the Belgian Congo (mainly the Katanga), and to a smaller extent in Czechoslovakia. Canadian production developed rapidly after 1936. At one time American producers extracted radium but ceased because of competition from the Congo during the twenties.¹

Cartel literature lists a marketing agreement between the Belgian Congo and Czechoslovakia as to export prices.² They maintained a common sales agency in Brussels called *Comptoir de Vente de l'Uranie*. It was established in 1925. There are reports that Canada later joined the combination by an informal understanding.³

SILVER

The center of the world's silver market is London. There brokers, known as "the four just men," fixed the silver price daily according to received offerings and bids. This international private market "control" was peculiar to the silver market.¹ American silver policies exercised a decisive influence upon the silver market, especially after the Acts of May 12, 1933, and of June 19, 1934, were passed by Congress.

The fact that silver is primarily used for monetary purposes gives that market an individual coloring. Marketing agreements and control mechanisms were established by governments. The London Monetary and Economic Conference accepted a resolution introduced by the United States Government recommending to the interested governments the adoption of an agreement mitigating the fluctuations in

¹ Staley, *Raw Materials*, p. 290.

² *Compass, Finanzielles Jahrbuch* (Berlin, 1939), p. 689. (Hereafter cited *Compass*.)

³ *Kartell-Rundschau*, 1938, p. 642.

¹ The operation of this mechanism is described in Herbert M. Bratter, *The Silver Market*, Trade Promotion Series No. 139 (Washington, 1932), pp. 16 ff. John Parke Young, *The International Economy* (New York, 1942), pp. 428 ff., and Commodity Research Bureau Inc., *Commodity Year Book* (New York, 1939), pp. 556 ff. (Hereafter cited *Commodity Yearbook*.)

prices of silver. According to that resolution the United States, Canada, Mexico, Peru, and Australia as silver producing nations and India, Spain, and China as silver holding nations signed an agreement regulating the sales of silver.² Furthermore, the United States Treasury concluded early in 1936 agreements with Mexico and Canada concerning general purchases of silver.³

TIN

The most important deposits of tin ore appear in the form of a mineral called cassiterite or "tinstone." Although tin is fairly abundant throughout the world, it is unimportant commercially except in a few localities. Extensive deposits of good ores have been found in Malaya, the Dutch East Indies, Nigeria, Bolivia, Thailand, and the Belgian Congo.

Tin is divided into two main grades, A and B. While Class B may fall to 99 per cent metallic tin content, Class A is required to assay 99.75 per cent. Certain low-grade ores create difficulties in refining but they are nevertheless important.

Another class of tin is tin scrap or secondary tin which comes chiefly from scrap resulting from the manufacture of tin-bearing articles. Although new processes have been developed for its recovery, secondary tin does not influence the market as copper scrap does the copper market, or scrap steel the steel market. The amount of secondary tin recovered fluctuates widely because it is not used in large quantities except under unusual circumstances such as war or when tin buyers wish to exert pressure on the market due to shortages, high prices, etc.

The search for tin substitutes has been extensive, but for most uses no satisfactory material has been discovered. Tin bonderized steel and the electrolytic tin plate, carrying less than one-third the tin formerly used in the manufacture of tin cans, have been adopted. Both of these processes require extensive plant installations.

Tin is a raw material of political importance both because it is indispensable in armaments, where it has practically no substitute, and because tin production is concentrated chiefly in the Far East and dominated by only a few governments. Several governments, including that of the United States, have complained bitterly that the supply and price policies in the tin industry have hampered their efforts to

² See Manley O. Hudson, *International Legislation*, Vol. VI; and Carnegie Endowment for International Peace, 1937, pp. 430-36.

³ J. P. Young, *op. cit.*, p. 429. An interpretation of the silver-laws is given in TNEC, *Monograph No. 6*, pp. 123 ff.

carry on war and have led to exorbitant exploitation in peacetime. Tin problems have been the subject of many a diplomatic note. Because of the great distances from sources of supply, governments have contemplated the accumulation of stockpiles of tin for use in case of war, but this was never accomplished satisfactorily.¹

Great Britain occupies a focal position in the tin industries for several reasons. First, a large part of the world's supply of tin ore is produced within British territories. Second, an even larger quantity of tin ores is smelted in British factories, chiefly at Liverpool, Singapore, and Penang. Third, through financial and other intercorporate relations England exerts influence on many tin-producing and tin-refining plants outside Britain. Finally, the marketing control agencies of tin are located in London, and are partially administered by British Government officials.

The prices of tin ore wherever produced, and of metallic tin wherever smelted, were governed by the quotations on the London Metal Exchange, and metallic tin was primarily sold by the smelteries through agents or dealers directly, or indirectly, connected with the Exchange. Tin was also bought and sold on the Exchange by speculators who did not intend to supply or accept real tin but who wanted to make money from the price fluctuations. Because of these speculative transactions, the turnover on the London Exchange was increased in periods from two to ten times the actual consumption needs.² Some tin is bought and sold on the New York Commodity Exchange as well.³

A significant role in tin was played by the Netherlands Government. The Dutch East Indies produced a substantial part of the tin ores, most of which were smelted at Arnhem, Holland. Whereas the British Government acted in the interests of its banks, and its many hundreds of investors, in Holland the Government itself was a large shareholder in the tin mines.

¹ A Subcommittee of the House Committee on Foreign Affairs in 1935 vetoed the idea. Its reasons were expressed as follows: "The difficulty of purchasing such an amount of tin without drastically disturbing the present price would be so great as to be almost insurmountable. Regardless of assurance given by any legislation, the very existence of such a stock with the ever present possibility of liquidation would threaten the value of inventories as long as the stock was held. The fundamental disadvantage, however, lies in the fact that the plan offers protection only for an emergency." *Report of the Subcommittee of the House Committee on Foreign Affairs on H.R. 404, 73rd Congress, 2nd Session, and H.R. 71, 74th Congress, 1st Session, 1935, p. 37.* (Hereafter cited *Tin Investigation*.)

² ITC, *Tin Control*, pp. 15, 20.

³ The tin by-laws of the New York Commodity Exchange are contained in *Tin Investigation*, pp. 492 ff.

The tin industry is the most important factor in the domestic and foreign economy of Bolivia. The export duties on tin, the import duties on mining materials, and other taxes paid by the tin companies amount to more than four-fifths of all the state's revenue. Many writers have remarked that the tin industry alone paid for the military expedition against Paraguay.⁴ The romantic story of the rise of Señor Patiño from a poor workman to a captain of Bolivian industry and politics has been recounted frequently. Patiño's financial interests have expanded into stock ownership in British and Malayan smelters. Before the war the United States Congress was urged from time to time to prohibit the export of tin scrap to Japan in order to conserve the tin the U. S. possessed, but this was considered impracticable. Since then Bolivian tin ores have been of particular importance to our war economy. A new smelter has been built in the United States to accommodate the smelting of these low-grade Bolivian ores.^{4a}

Trade associations played a significant part in the tin marketing controls. These associations were largely responsible for the regulation of markets at the start of international co-operation. Although they became less noticeable when international public agencies participated in the control schemes, even the superficial observer should have realized that government marketing controls could not have operated successfully without the support and guidance of the private entrepreneur associations. Tin producers first formed local associations which expanded into national groups. There were many producers' associations, especially in Malaya and Nigeria, some of which were connected with the chambers of commerce. The first comprehensive association of tin producers was established at a meeting in July of 1929 in London, with some three hundred delegates of the largest tin mining interests in the British Empire present. According to reports, this meeting resulted from a letter appearing in *The Times* of June 6, 1929, signed by representatives of tin mining interests from Malaya, Siam, Nigeria, and Burma. This formation of the Tin Producers' Association marked the first important attempt to establish an international marketing control on a voluntary basis. One motivating force leading to this organization was the fact that while the prices of other

⁴ *International Ententes*, p. 20. See also K. E. Knorr, *Tin Under Control* (Stanford University, 1945), entire. See also additional material quoted in this volume.

^{4a} According to recent reports, this smelter is expected to be kept in operation after the Second World War and to be supplied also by Dutch concentrates. American interests hope that the export duty on Malayan concentrates, discriminating against non-British smelters, will be repealed. Cf. the *New York Times*, April 30, 1945, p. 26.

non-ferrous metals increased in 1929 over those in 1928, tin prices dropped in that year and stocks rose. The Council of the Association consisted of 21 members who met for the first time on September 3, 1929. Originally it represented only a small part of the output and was regarded as an association of financial interests, until, in December, 1929, at the general assembly of the Association, it was announced that Bolivian and Dutch East Indies' producers had agreed to join. Thereupon many other British interests joined. Originally the Dutch producers had been reluctant to join the Association because, they argued, they had not expanded production tremendously during the early post-war boom as had the others and therefore should not be expected to curtail production.⁵ All members were asked at this first general meeting to stop production for eight days from February 8 to February 16, 1930, and for another eight days from March 15 to March 23. In addition, members were requested to stop production every week-end for at least 30 hours during the whole of 1930 after the first of February.

The Council thought that these two measures would bring about a reduction of some 20,000 long tons by the end of 1930, but by the beginning of April they saw that there were complicating factors which would prevent such reduction. Then they decided to urge members to reduce output in 1930 to 80 per cent of the 1929 output, hoping it would reduce the total by 30,000 tons. By July they realized that 20 per cent was insufficient, and the members agreed in addition to this curtailment to suspend operations during two of the three succeeding months. The Dutch producers threatened to leave the Association because of the lack of discipline and enforcement of the restrictive measures. The Dutch suggested that these measures should be implemented by governmental compulsion. By the end of 1930, all the producers had concurred in this suggestion. The first agreement between governments on a tin restrictions scheme was concluded on February 27, 1931, to be effective on March 1.⁶ Public opinion in producing countries received this new type of organization with rather favorable comments.

As a rule, international marketing controls in the non-ferrous metal industries found that attempts to stabilize prices only by influencing production were not adequate, and that other methods had to be adopted to supplement and enforce them. In the tin industry,

⁵ Rowe, *Markets*, p. 160.

⁶ This agreement is published in ILO, *Intergovernmental Commodity Control Agreements*, pp. 73 ff.

buffer stock schemes were employed to adjust market policies over short periods. These schemes attempted to maintain the price of tin between certain limits by buying or selling on the London market. Long term policies, however, continued to depend on the regulation of tin production.

One of the first instances of co-operation among tin producers was the formation of the so-called Bandoeng Pool. This scheme, like others in the non-ferrous metals, followed the close of the First World War in 1918-1919. It was organized under the auspices of the British and Dutch Governments and was designed to liquidate excess stocks. It succeeded in facilitating an orderly liquidation, and although it was not intended primarily as a measure of price regulation, it did help to restore tin prices to normal levels.⁷

The first international tin stock was formed in August, 1931, by British and Dutch tin producers within the Tin Producers' Association. This first stock scheme was established primarily to prevent a disastrous fall in the price of tin through co-operation by acquiring a large part of the excessive stocks then overhanging the market. It was reported that this tin pool had the financial backing of the Midland Bank, the Anglo-Oriental Corporation, the Patiño interests, and the Netherlands Government. The operation of the pool was shrouded in such secrecy that one participant was said to have remarked that most of the members of the pool were not even informed of the share of the other members.⁸ Since the International Tin Control Scheme had already gone into effect the fact that the tin pool was a private operation occasioned some criticism.⁹

An agreement providing for the establishment of a buffer-stock scheme by the governments signatory to the international tin cartel was signed on July 10, 1934. Since the buffer stock could not begin operations until April, 1935, a producer's stock was formed by the Dutch and British interests to carry on during the interim. This was the first stock that had as its definite objective the maintenance of tin prices between certain limits. During this period the price fluctuations amounted to no more than 3.7 per cent; whereas, during the same period copper prices varied 21.3 per cent. The official governmental buffer-stock scheme went into effect on April 12, 1935, but was

⁷ ITC, *Tin Control*, p. 30.

⁸ Elliott *et al.*, *International Control*, p. 332. The executive of the pool was the late Sir John Campbell, Chairman of the International Tin Committee. See also Knorr, *op. cit.*, pp. 119 ff.

⁹ W. F. Holland (ed.), *Commodity Control in the Pacific Area* (Stanford, 1935). p. 386. (Hereafter cited Holland, *Commodity Control*.)

terminated in June, 1935, when Bolivia decided not to co-operate in the venture. It was finally liquidated in September of 1935. On March 14, 1938, the Council of the Tin Producers' Association unanimously approved the draft of a new buffer-stock plan and urged the Secretary of State for the Colonies and the International Tin Committee to set up the necessary machinery as soon as possible. Since there was some opposition to the idea in Malaya, a referendum was held which resulted in a two to one decision there in favor of the scheme. This buffer-stock scheme, adopted on June 2, 1938, was administered as an adjunct to the international control. The stock consisted first of approximately 10,000 tons of tin and was later increased to 15,000 tons. The signatories were entitled to contribute in proportion to their standard tonnages. When the buffer-stock scheme came to an end finally on December 31, 1942, its stock was liquidated. During the operation of the scheme, a special executive was appointed to administer under strict secrecy the purchases and sales of tin on the London market. The general opinion of the producers and many others was that the buffer stock was influential in stabilizing tin prices to a considerable extent.¹⁰

The members of the basic agreement were the four governments of the Netherlands, Nigeria, the Malay states, and Bolivia. On September 1, 1931, Siam joined the agreement. The cartel then included 93 per cent of all tin production. Its administration was placed in the hands of the International Tin Committee with headquarters in London. The Committee was composed of governmental delegates although the governments were free to delegate entrepreneurs as their representatives. This committee was no automaton but a powerful executive. Each participant was allotted a standard tonnage based on his 1929 output. The production quotas determined periodically by the Committee were based on the standard quotas. Table 13 shows the changes in quotas from 1931 to 1940. Each group apportioned among its members the assigned output as it saw fit.

Quotas were considerably reduced until in June, 1932, they stood at 43.8 per cent of standard tonnages. The Tin Producers' Association, which remained a powerful group, interfered and told the Committee that this reduction was still not enough. It urged more drastic measures in the so-called Byrne Restriction Scheme which recommended that quotas be reduced to 33.3 per cent, and also advocated an export holiday. The plan was adopted by the Committee and

¹⁰ The official publication, ITC *Tin Control*, discusses this problem thoroughly.

went into effect on July 1. These were the smallest quotas ever set during the whole period of restriction.¹¹

The opinion of the London Monetary and Economic Conference on the tin restriction scheme and the Tin Pool was drafted in a separate sub-committee with the participation of representatives from the United States and the Chairman of the International Tin Committee. Though the representative of the United States emphasized the necessity of protecting the interests of consumers no substantive criticism of the scheme was made and no suggestions offered as to its amendment or as to any alternative methods of control. The report of the Sub-Committee adopted by the conference shows that the existing control was regarded as proceeding on sound lines. The conference went so far as to urge those tin-producing countries, not at the time members, to join the scheme.¹²

The first agreement expired at the end of February, 1933, but was prolonged without modification until the end of 1933. In October, 1933, a second agreement to be effective on January 1, 1934, for three years was announced. Beginning in July, 1934, French Indo-China, the Belgian Congo, Portugal, and Great Britain (Cornwall) adhered to the scheme. Portugal and Cornwall, however, dropped out in 1937 because their demands for increased quotas could not be met.

The third restriction scheme was based on an agreement signed at Brussels January 5, 1937, to expire at the close of 1941. This scheme contained a provision for consumer representation. Representatives from the two largest tin consuming countries were invited to attend ITC meetings and to tender advice to the Committee regarding world stocks and consumption. This was simply a recognition of the informal consumer representation that had already been practiced in the summer of 1934, after the rubber scheme had adopted a similar measure. In an agreement signed in London September 9, 1942, consumer representation, as formulated in the agreement of 1937, was altered by providing that two persons should represent the consumer interests of the United States (one to be appointed by the government of the United States and the other to be the direct representative of tin consumers), and a third person to represent tin consumers other than those in the United States. This mechanism has been frequently discussed in connection with cartels. It is very difficult to obtain reliable reports as to whether these representatives functioned effectively. Did

¹¹ Holland, *Commodity Control*, p. 387.

¹² *Journal of the London Monetary and Economic Conference*, July 19, 1933, pp. 201 f.; also July 21, 1933, pp. 204 f.; and July 27, 1933, pp. 239 f.

they really represent the interests of consumers and influence the decisions of the governing body? Eugene Staley is of the opinion that they were ineffective.¹⁸ According to reliable private sources, the United States Government was represented in the Consumers' Panel by diplomatic officials of the American Embassy in London. American tin consumers appointed as their representative the American agent of the Steel Export Association of America in London. British and other tin consumers were represented by a delegate of the trade association of the tinplate producers of Great Britain. A private source expressed its opinion on the effectiveness of representation as follows: "It is my understanding that in general American consumers of tin found it helpful to have representation on the International Tin Committee. That representation proved effective in the matter of current official information about developments in tin production." Whether the British consumer representative consulted with other than the British (and American) consumers is not known to this writer.

The 1937 agreement incorporated the principle of majority vote on all important matters. Thus any proposal supported by eleven votes was carried. The small countries, if combined with one of the larger countries, could outvote the others. The votes were distributed as follows: Malaya, 5; Bolivia, 4; Dutch East Indies, 4; Siam, 2; Belgian Congo, 2; Nigeria, 2; and French Indo-China, 1.

The agreement, which expired at the end of 1941, was prolonged with a few changes in a new agreement concluded in London September 9, 1942, effective January, 1942, to remain in force until December 31, 1946. This new agreement was concluded by the governments of Belgium, Bolivia, the United Kingdom, and the Netherlands.

The first agreement authorized the Tin Committee to set up a special agency for research on the development and consumption of the uses of tin. The principles for the research bureaus were embodied in a special agreement on a Tin Research Scheme signed in London January 25, 1938, and amended in 1939. The research scheme was administered by a General Council of Control. This body appointed the directors of Research, Development and Statistics, and outlined their powers. The Statistical Office maintained headquarters at The Hague until the German occupation, when it was moved to London. The Research Bureau had offices in London and in New York, where it was connected with the American Tin Plate Trade

¹⁸ *Raw Materials*, p. 135. According to *International Ententes*, p. 26, "The Advisory Panel of Consumers established in 1934 appears to have given its whole-hearted support to the management."

Association. It is ironical to think that today the Research Council is engaging in activities to conserve the uses of tin, whereas its chief concern formerly was to boost the sales of tin through propaganda and development of new uses of this commodity.

In the last few years one of the outsiders, the Chinese, exported little tin. Since Japan began its extensive Far Eastern campaign, French Indo-China, Siam, Malaya, Burma, and the Dutch East Indies have ceased to be tin suppliers for the world. There remain only Nigeria, Bolivia, and the Belgian Congo with about 90,000 long tons available for consumption by allied and neutral nations compared to a former peacetime export of some 200,000 tons. In 1943, the International Tin Committee increased the quotas for Nigeria, Belgian Congo, and Japanese-occupied regions much more than the Bolivian quota. It has been stated that: "The American tin trade suspects that the cartel increased the allowance for Far Eastern mines along with the increase for African production to keep the record for the two areas in balance pending the ousting of the Japs. They also observe that the Bolivian quota probably was not raised because the country is producing just about all the ore it can."¹⁴

The fairness of the cartel's price policies was often doubted. The question of to whom the prices were fair naturally arises. The answer to this is further complicated because production costs varied from mine to mine. The administration of a marketing scheme by governments of large, democratic countries implies that marketing policies are determined in accordance with public interests. When the first tin agreement was made by governments, public opinion took this point of view for granted. It should be emphasized, however, that it is especially hard to determine the public interest in the case of a scheme that relates to a world market.

There has been considerable publicity on the Tin Restriction Scheme. The agreements have been published as official documents by the British Government. The International Tin Research and Development Council has issued several reports on its research and statistical activities. But despite the large body of literature there is only one comprehensive work of an analytical and critical nature on the operation of the International Tin Restriction schemes.¹⁵

¹⁴ *Business Week*, July 31, 1943, pp. 16, 17.

¹⁵ Knorr, *op. cit.*, *passim*. All the tin agreements are contained in ILO, *Intergovernmental Commodity Agreements*. The official papers of the International Tin Control Scheme are published in London as Cmd. 4825, Cmd. 5879, and Cmd. 6396. See also Rowe, *Markets*, Chapter VII; Staley, *Raw Materials*, pp. 306 ff.; Holland, *Commodity Control*, Chapter XII; International Chamber of Commerce, *International Ententes; Tin Investigation*, Parts 1-3.

TABLE 13

TIN PRICES

London—£ per long ton

Year	STANDARD CASH						Backwardation (-) contango (+) for tin on 3 months	PREMIUM ALLOWED OVER STANDARD		
	High- est	Low- est	Average			Straits		Banka	Eng- lish (com- mon)	
	Sterling currency			Gold £	Equivalent in Dutch currency (florins p. ton)					
1928..	266.0	205.8		227.2		2748	-1.45	2.2	4.0	0.6
1929..	229.8	174.1		203.9		2465	+2.50	3.4	7.8	0.4
1930..	180.6	104.6		142.0		1714	+1.93	2.6	5.5	1.5
1931..	141.9	100.3	118.5		108.9	1324	+2.00	2.8	6.6	2.2
1932..	157.8	102.4	135.9		97.6	1177	+1.80	4.5	10.6	2.4
1933..	227.4	141.1	194.6		132.1	1597	+0.16	8.0	8.0	1.6
1934..	244.0	222.3	230.4		142.3	1723	-0.96	2.0	3.4	1.1
1935..	245.5	208.3	225.7		135.0	1634	-7.85	4.4	5.3	0.5
1936..	244.6	175.3	204.6		123.9	1600	-4.22	2.6	1.7	-0.4
1937..	311.3	180.9	242.3		146.2	2177	-1.24	3.0	...	0.4
1938..	217.3	153.3	189.6		112.9	1684	+0.67	4.3	...	1.3
1939..	272.3	208.9	226.3		124.1	1878	-1.80			
1940..	290.3	231.8	256.6		129.6	....	+0.24			

New York—\$ cents per lb.

Year	STRAITS CASH				
	Highest	Lowest	Average		
	Dollar currency				Gold £
1928.....	57.75	45.75		50.46	
1929.....	50.38	38.38		45.19	
1930.....	39.75	23.75		31.70	
1931.....	27.50	20.60		24.46	
1932.....	25.63	18.35		22.01	
1933.....	55.80	21.80	39.12		29.78
1934.....	56.65	50.00	52.16		30.86
1935.....	54.00	45.75	50.39		29.76
1936.....	53.50	40.50	46.42		47.41
1937.....	66.63	41.00	54.24		32.04
1938.....	46.75	35.00	42.26		24.96
1939.....	75.00	45.00	50.20		29.65
1940.....	58.00	44.75	49.82		29.42

Source: Statistical Bulletin of the International Tin Research and Development Council, February, 1940.

TABLE 14

PRODUCTION OF TIN AND TIN IN ORE IN LONG TONS

The grand total represents almost the entire world output of tin, excepting only the quantities refined and consumed locally in China, in respect of which no information is available.

	1933	1934	1935	1936	1937	1938	1939	1940
Belgian Congo ¹ . . .	2,225	4,602	6,481	7,310	8,856	7,318	9,663	12,392
Bolivia ¹	14,725	20,634	27,168	24,074	25,024	25,371	27,215	37,940
French Indo China ¹	1,038	1,070	1,421	1,409	1,531	1,575 ^e	1,392	1,560
Malaya ¹	24,904	34,059	45,955	66,806	77,542	43,247	55,950	85,384
Netherlands East Indies ¹	14,406	18,678	24,719	31,684	39,825	21,024	31,281	44,563
Nigeria ¹	3,672	4,996	7,029	9,634	10,468	7,313	10,855	10,257
Thailand ¹⁻⁶	10,324	10,587	9,779	12,678	16,494	13,520	16,991	17,447
Total signatory Countries	71,384	94,626	122,552	153,595	179,740	119,368	153,347	209,500
Germany	—	25	30	50	76	300 ^e	300	
Italy	—	—	—	—	75	271 ^c	229	
Portugal	418	540	697	812	1,152	1,052		
Spain ⁴	258	261	300	180	6	—		
United Kingdom . . .	1,542	1,999	2,050	2,099	1,986	2,010 ^c	1,712	
Cameroons ⁵	50	130	220	220	240	220		
Morocco	^e 30	40	40	20	14	27		
Northern Rhodesia .	—	—	5	4	5	3		
Southern Rhodesia .	11	8	7	47	139	267		
Southwest Africa ² .	142	142	167	163	169	164 ^e	153	
Swaziland	71	114	127	128	108	174 ^e	180	
Tanganyika ³	59	103	139	207	197	263	222	
Uganda ³	278	306	386	408	374	358		
Union of So. Africa	539	570	622	634	537	558		
U.S.A.	3	8	45	101	168	109 ^c	120	
Argentina	50	230	630	890	1,335	1,719		
Mexico	123	16	621	368	373	249	273	
Peru	—	1	—	97	195	103		
Burma ⁷	3,070	3,498	4,540	5,131	5,257	5,014 ^p	5,750	
China ³	8,104	8,145	9,398	10,664	10,457	11,246		
Japan	1,522	1,803	2,197	2,382 ^c	2,175 ^c	2,186 ^c	1,700	
Australia	2,810	2,986	3,130	3,027	3,256	3,329 ^c	3,300	
Total non-sign. Countries	19,080	20,925	25,351	27,632	28,294	29,622 ^c	29,200	28,300
Sundries	1,170	697	726	627	1,077	724		
Grand Total	91,600	116,200	148,600	181,900	209,100	149,700	183,700	237,800

^r Revised

^e Estimated or partly estimated.

^p Preliminary.

¹ Official exports as from the years in which these countries joined the International Tin Control Scheme.

² Up to and including 1936 reports, thereafter production.

³ Exports.

⁴ As from 1934 imports into smelting countries.

⁵ As from 1939 exports.

⁶ The true assay value of Thai ore is taken to be 72.5 per cent for the second half of 1939 and the first half of 1940.

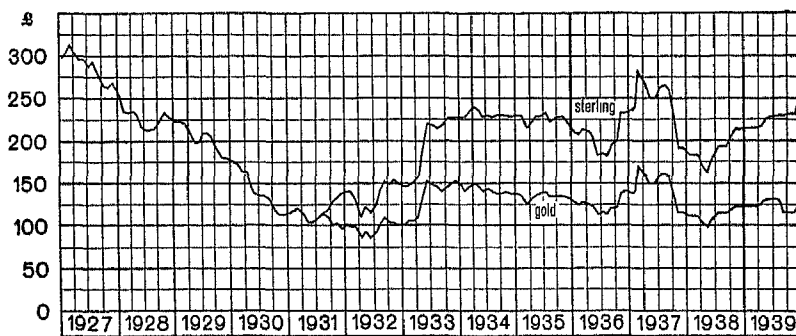
Source: *Statistical Bulletin* of the International Tin Research and Development Council, February, 1940.

ZINC

The best known international zinc cartel was first established in May, 1928, and disintegrated in the latter part of 1929. It was revived in 1931 only to dissolve again in 1934. The cartel was extremely unstable and collapsed as a consequence of Germany's introduction of a premium on domestic zinc production and Great Britain's levying of a

GRAPH I

MONTHLY AVERAGES OF CASH PRICES IN LONDON PER LONG TON OF STANDARD TIN



Source: Statistical Bulletin of the International Tin Research and Development Council, February, 1940.

TABLE 15

APPLIED PERCENTAGES OF STANDARD QUOTAS UNDER THE INTERNATIONAL TIN CONTROL SCHEME

1st agreement	2nd agreement	3rd agreement	
1931 Mar.-May 77.7%	1934 1st qtr 40% ⁴	1937 1st qtr 100%	1940 1st qtr 120%
June-Dec. 64.4%	2nd qtr 50% ⁴	2nd qtr 110%	2nd qtr 80%
	3rd qtr 50% ⁴	3rd qtr 110%	3rd qtr 130%
	4th qtr 40% ⁴	4th qtr 110%	4th qtr 130%
1932 Jan.-May 56.2%	1935 1st qtr 40%	1938 1st qtr 70%	1941 130%
June 43.8%	2nd qtr 45%	2nd qtr 55%	
July-Dec. 33.3%	3rd qtr 70%	3rd qtr 35% ³	
	4th qtr 80%	4th qtr 35% ³	
1933 Jan.-Dec. 33.3%	1936 1st qtr 90%	1939 1st qtr 35% ³	
	2nd qtr 85%	2nd qtr 40%	
	3rd qtr 90% ¹	3rd qtr 120%	
	4th qtr 105% ²	4th qtr 100%	

¹ Quota for Bolivia 75 per cent.

² Quota for Bolivia 90 per cent.

³ Excluding the additional quota of 10 per cent for the buffer stock.

⁴ Excluding the extra quota of 4 per cent for compensating over and under exports, and excluding the additional quota of 5 per cent for the buffer stock.

Source: Statistical Bulletin of the International Tin Research and Development Council.

10 per cent duty on non-Empire zinc.¹ The most recent meeting of French, Belgian, and British interests in Paris in June, 1939, failed to revive the old cartel. There are indications that British interests promised to press their government to reduce custom duties on zinc if foreign exporters would agree to form a cartel with them.² But Germany, Italy, and Japan were not interested in a cartel which would lower zinc production. Another difficulty was the close connection between lead and zinc production necessitating a reduction in lead if restriction of zinc were agreed upon.³

Another collective marketing control existed on the international market up to the outbreak of the war. This control, although incomplete, exercised considerable influence. It was based on a patent agreement concerning the most practical process for refining high-grade zinc. The process was developed in 1935 by the New Jersey Zinc Company in New York City. The license agreements directly and indirectly influenced producing, marketing, and exporting policies. The American company made direct agreements restricting exports with Canadian, British, German, and Belgian producers. The Belgian licensee, i.e., *Société Générale Des Minéraux*, was authorized to give sub-licenses to the Belgian Colonies, the French Empire, Czechoslovakia, Italy, Holland, Norway, Poland, Spain, and Luxembourg.⁴ One curious feature employed to enforce exporting restrictions was the ear-marking of zinc bars under the production licenses.⁵ The shortage in high-grade zinc in the United States after war was declared was attributed to the restrictions mentioned above.

Arrangements among British Empire producers of metallic zinc (on the one side the Hudson Bay Company, Consolidated Mining Company, Electrolytic Zinc, and Rhodesian Broken Hill, and on the other side Imperial Smelting Company) existed by which the Imperial Smelting Company agreed to limit its output to 60,000 tons and the other companies agreed to pay 10 shillings cash to Imperial Smelting for each ton of zinc imported and sold in the United Kingdom.⁶

Another regional pact was arrived at on January 1, 1936, between Czechoslovak, German, and Polish producers for the export of zinc.

¹ Cf. Elliott *et al.*, *International Control*, Chs. XII and XIII.

² Military Affairs Committee, *Monograph No. 1*, p. 46.

³ *Kartell-Rundschau*, 1939, p. 54.

⁴ The license agreements with all the countries mentioned are reprinted in Bone Committee, *Patent Hearings*, Part 3, pp. 1631 ff.

⁵ *Ibid.*, p. 1524.

⁶ *The Mineral Industry*, 1939, p. 619. See also the pamphlet by Ernest V. Gent, Secretary to the American Zinc Institute, Inc., *The Zinc Industry in 1939*, p. 27.

This was to remain in force for one year and was then to be renewed.⁷

In February, 1938, an International Zinc Sheet Cartel was formed with headquarters at the Belgian domestic cartel's offices in Liège. This cartel included members from the United Kingdom, Belgium, Holland, Germany, France, Spain, Hungary, Poland, Yugoslavia, and Czechoslovakia. Italy did not enter the cartel but Belgian control of the Italian rolling mills ensured Italian co-operation.⁸ This cartel regulated prices and established export quotas.⁹ Within this cartel, it seems likely that a previously (1934) established International Convention for the Export of Rolled Zinc Products operated with members from Poland, Germany, and Czechoslovakia.¹⁰

NON-METALLIC MINERALS

DIAMONDS

Diamonds, the most valuable of all the precious stones, have varied important industrial uses. The world production of diamonds is figured for 1941 at about 9,350,000 metric carats¹ (value approximately \$26,000,000). In 1940 it reached 14,300,000 metric carats.

Any adequate discussion of the diamond trade must take up the separate processes of production, selling, and cutting. The economist realizes that the monopolistic features of the industry, while perhaps sensational, are not typical of industrial organization as a whole. The monopolistic position of the diamond industry has been strengthened by the fact that no substitute material or synthetic product discovered has been satisfactory.

Governments themselves have often fortified private monopolies in the diamond industry by licensing the monopolistic organizations, by participating in them as shareholders, or by reserving mining and selling rights. In South Africa, for example, through the passage of a statute all rights from the discoveries of mines made after July, 1926, were assigned to the Crown. This did not protect small, independent producers because ultimately the government entered into an agreement with the world diamond syndicate.² Several governments shared in the revenue from diamonds by levying export duties. Bel-

⁷ *Czechoslovak Cartel Book*, p. 204. The *Polish Political and Economic Yearbook* 1938, p. 761, says it was established in 1933.

⁸ *Minerals Yearbook*, 1938 (1939), p. 165.

⁹ *Ibid.* See also International Chamber of Commerce, Document 6484, 1938; League of Nations, *Circular*, E, 1039, 1938, p. 13.

¹⁰ *Polish Political and Economic Yearbook* 1938, p. 761.

¹ One metric carat is $\frac{1}{5}$ gram weight.

² Staley, *Raw Materials*, pp. 271 f.

gian Congo, for instance, the largest producer of diamonds by weight, imposed an export duty of six francs per carat on gem stones and 0.40 francs per carat on industrial diamonds. In another case, an agreement was formulated between the Sierra Leone Trust, Ltd., and its government, and was commented upon in the following manner by a British official publication: "This company holds a monopoly for winning diamonds in Sierra Leone and in return the Government participates in the profits. The prospect is that the Government will receive a large annual income from this source."³

The Diamond Corporation of London (established in 1930) purchases 95 per cent (in value) of the world gem and industrial diamond production. The Diamond Trading Company, Ltd., in London, jointly owned by Diamond Corporation and De Beers Consolidated Mines, Ltd., sells the rough diamonds to carefully selected brokers and cutters. Diamond Trading Company is now the sole selling agency for 99 per cent of all diamonds produced in Africa and 95 per cent of all diamonds produced throughout the world. The Diamond Corporation embraced the producers' organization and regulated through its purchasing policy the amount of diamonds put up for sale on the market as well as the prices they would bear. That this policy was successful is shown by the following passage from an authoritative market analysis: "For the first time in the past six years, production exceeded sales of rough and the stocks of the Diamond Corporation and those of most producers increased. At certain times, however, during the year fine large rough and fine small round were difficult to obtain."⁴ That restrictions on total output did not preclude expansion everywhere is demonstrated by the fact that the diamond production in the Belgian Congo increased, from 1933 to 1938, from 3.3 million carats to 7.2 million carats and in Sierra Leone from 69 thousand carats to 900 thousand carats.

The formal organization of the cartel, establishing production quotas, was set up in 1934 in the framework of a trade association, the Diamond Producers' Association in London. The members of this trade association included representatives from the governments of the Union of South Africa and the Administration of Southwest Africa. The most significant member of this association, however, was the De Beers Consolidated Mines, Ltd., which was the controlling

³ British Colonial Office, *An Economic Survey of the Colonial Empire*, (1936), p. 150.

⁴ Sidney H. Ball, "The Diamond Industry in 1938," *The Jewelers' Circular-Keystone* (New York, 1939), p. 5.

shareholder of the Diamond Corporation. De Beers was the most important producer of diamonds in value and was a more potent force in the diamond trade than was any other mine. During 1941, De Beers absorbed Cape Coast Exploration, Ltd., so that it now owns or controls all important diamond mines in the Union of South Africa and Southwest Africa except the state mines at Namaqualand. The President of De Beers, Sir Ernest Oppenheimer, exerted great personal influence in co-ordinating diamond production and trade. Although De Beers was mainly concerned with the production and selling of diamonds, it owned jointly with Imperial Chemical, Ltd., the African Explosives and Industries, manufacturers in South Africa of heavy chemicals, explosives, and fertilizers.

The former center of the diamond trade was London. Only after the outbreak of the Second World War did the diamond syndicate consider transferring part of its activities to New York. According to a publication of C. K. Leith, J. W. Furness, and Cleona Lewis the Department of Justice would not give the syndicate assurance that it would be exempt from prosecution under the American antitrust acts, so it continued to operate in London.⁵ On January 29, 1945, the Department of Justice filed a civil suit charging nine British, Belgian, and Portuguese corporations (including De Beers, Diamond Corporation, and Diamond Trading Co.) with restraining and monopolizing the foreign trade of the United States in gem and industrial stones in violation of the Sherman Antitrust Act and the Wilson Tariff Act.⁶ However, the Diamond Trading Company has since opened a branch office in Hamilton, Bermuda, to deal with cutters and brokers residing in the United States.

In 1942, the British Government in London assumed control over the Diamond Corporation.⁷ A quota adjustment of the diamond cartel was made in June, 1939.⁸

The distribution of diamonds has been in the hands of a few brokers and privileged customers whom the Diamond Corporation regarded as worthy of that task.

Early in 1939 Belgian, German, Dutch, and French diamond cutters established a trade association called the International Commission of the Commerce of the Diamond Industry. The association was formed by the master cutters and unions of the principal cutting centers, namely, Amsterdam, Antwerp, and the lower Rhine cities,

⁵ Leith *et al.*, *World Minerals*, p. 129.

⁶ Department of Justice, Press Release, Jan. 29, 1945.

⁷ Leith *et al.*, *World Minerals*, p. 129.

⁸ *The Economist*, July 1, 1939, p. 27.

in an attempt to put certain of the shops on a part-time basis and to reduce wages. They held many meetings during 1938 and 1939 but their efforts to exercise market control were unsuccessful.

There is fairly satisfactory publicity about the diamond industry.⁹

GRAPHITE

Natural graphite is mined in many countries. The crystalline variety of this mineral, however, originates in Ceylon and Madagascar. To control this high-grade graphite production and exports an international agreement was concluded between producers of Great Britain and France in 1939.¹ This joint marketing scheme collapsed early in 1940.² Potential competition existed not only from producers of other kinds of graphite but also from small concerns which reopened whenever prices were sufficiently high.³

IODINE

One of the sources of iodine is the sodium iodate content of the mother liquor which is gained as a by-product in refining Chilean salt-petre. A second source is various kinds of kelp and seaweeds. Iodine is marketed in crude grade for industrial purposes, mainly for the manufacture of photographic materials and dyes, and in re-sublimed grade for pharmaceutical purposes.

Chile is the largest exporter of crude iodine. In that country producers are practically identical with those of natural nitrates. In fact, there is a joint selling agency for the two products called the Chilean Nitrate and Iodine Sales Corporation with a subsidiary in the United States. The Chilean government has given this company a legal monopoly on the iodine exports for thirty-five years. In 1940, these exports amounted to 1300 metric tons and in 1941 to 900 metric tons.

International co-operation in the marketing of iodine extends back as far as 1878 when Chilean, English, and French producers joined together to control the iodine market.¹ Almost the same national groups, that is those in England, France, Germany, Italy, Norway, and Chile were, up to the Second World War, linked together in a

⁹ See *Fortune*, May, 1935, pp. 67-74; Sidney H. Ball, *op. cit.*; and Leith *et al.*, *World Minerals*, pp. 126 ff.; *Minerals Yearbook* for 1939 (1940), p. 1157; *The Economist*, Sept. 4, 1943; *Kartell-Rundschau*, 1937, p. 490; *New York Herald-Tribune*, Financial and Business Section, Oct. 3, 1943, pp. 8 and 11.

¹ *The Mineral Industry of 1939*, p. 290.

² *Commodity Year Book*, Master Edition, 1942, p. 169.

³ *The Mineral Industry of 1939*, p. 291.

⁴ Ballande, *Ententes*, p. 46, and U. S. Tariff Commission, *Chemical Nitrogen*, pp. 112 ff.

collective marketing control which maintained a common sales agency in London.² There were many outsiders—in England, Scandinavia, Java—but they were relatively small exporters.

On June 10, 1937, the Chilean Nitrate and Iodine Sales Corporation concluded an agreement on exports of iodine with government-controlled producers of iodine in Japan. This accord provided that Chile refrain from selling iodine in the Japanese Empire. The Japanese export quota was fixed at about 70 metric tons per year but the quota was to be revised according to the market demand every three months. Japanese export prices were fixed at 5 per cent below the base price of the International Iodine Cartel for deliveries to all Asiatic countries except British India, where prices were to be 15 per cent below the cartel price and 10 per cent below cartel prices for all non-Asiatic countries. The agreement was made for ten years and the Japanese Ministry of Commerce established, effective July 1, 1938, a compulsory association of Japanese iodine exporters.³

MAGNESITE

Only dead-burned magnesite and magnesite bricks (not including refractory magnesia from sources other than magnesite) have been subject to international cartellization. Czechoslovak and Austrian producers of crude magnesite established a collective marketing control after the First World War by means of sales quotas and uniform prices. This cartel undoubtedly was still in existence at the outbreak of the Second World War. The cartel had a permanent agreement to furnish supplies to steel works in Germany, Great Britain, and the United States. Some of these large permanent purchasers were shareholders of magnesite companies. The headquarters of the cartel were in Vienna, although the sales corporation, in the form of a joint-stock company, is situated at Basle, Switzerland.

In January, 1941, the Justice Department of the United States obtained a true bill of indictment against American magnesite companies because they divided the world market with the European magnesite cartel. According to this charge, the American companies supplied the needs of North America while Europe, Asia, and Africa were reserved to the European cartel. Four European companies were permitted to ship magnesite to the United States. According to the Justice Department, this cartel arrangement was made in 1923.⁴ On

² Staley, *Raw Materials*, p. 272.

³ *The Mineral Industry 1937*, pp. 670-71.

⁴ See the *New York Times*, Jan. 21, 1941. See also Berge, *Cartels*, p. 255, and *Minerals Yearbook of 1938*, p. 1371.

July 22, 1941, four companies and seven individuals were assessed fines for violation of the Antitrust laws in the production and sale of magnesite and magnesite brick.²

PETROLEUM

Crude petroleum is a mixture of a large number of hydrocarbons. Through the process of distillation these hydrocarbons may be divided into progressively higher cuts. The principal cuts are gasoline, kerosene, fuel oils, and lubricating distillates. The residue, after distillation of the lighter parts, may be sold as bunker fuel oil or it may be subjected to further distillation. Gasoline can be obtained also by physical separation from natural gas. In addition, petroleum products can be made synthetically. There are few commodities which occupy as important a position in value and volume of international trade as crude oil and petroleum products.

Technological progress in petroleum production is perhaps more rapid than in any other branch of industrial production. The invention and improvements in synthetic production of petroleum products from coal, oil shales, etc., has altered the military and political status of natural crude petroleum. However, oil policies are still in the forefront of international political discussions. Diplomacy exercises great influence on marketing in private international trade.

Marketing control problems have to be considered from the aspect of crude oil production, transportation of crude oil, refining of natural products, synthetic production, and marketing of finished products. Large petroleum companies of world-wide significance are highly integrated and have more or less completely controlled subsidiaries all over the world.

The international market in petroleum products before the Second World War was dominated by the Standard Oil Company of New Jersey (Jersey) and the British-Dutch controlled Shell group. There were many related companies attached to the Jersey group. According to reliable evidence, Jersey by its own initiative frequently safeguarded the foreign interests of all American oil companies.¹ This fact made Jersey's leadership in international relations more efficient. Shell also had many subsidiaries and related groups. In addition, it shared almost all of its internationally significant business transactions with its junior partner, the British government-owned Anglo-Iranian Oil Company. These two petroleum concerns (Jersey and

² *Minerals Yearbook of 1941*, p. 1501.

¹ See for an interesting example Bone Committee, *Patent Hearings*, Part 7, p. 3666.

Shell) exercised controlling influence, except in Germany, over newly invented processes for the production of synthetic oil and modern refining processes as well.

No doubt this leadership on international markets was not watertight. Other American² and various European groups also participated in exploitation of foreign oil fields, in exports, and in financial and commercial connections with refiners and marketers all over the world. Such companies frequently defied the two leading groups. But the competing groups were not very significant in international trade as compared with Jersey and Shell on the basis of ownership of patents, technological experience, oil fields, tankers, and pipelines. Nor did they possess the marketing mechanisms, political connections, and financial capacities to the extent of Jersey and Shell. The Standard Oil Company of California and the Texas Company formed the American Eastern Petroleum Company as a holding company for their jointly owned companies (with exception of their Arabian and Bolivian interests) principally devoted to the exploration of oil properties in Egypt, New Zealand, Australia, and the Dutch East Indies.^{2*}

The tremendous amount of literature about technological and trade problems of petroleum contains relatively little material on co-operation and competitive relationships of big oil groups in the pre- and post-First-World-War periods.³ In many countries cartels regulated domestic markets, and in Poland an export cartel operated among Polish producers. In the early twenties diplomatic discussions and disagreements overshadowed private efforts to compete, co-operate, and to secure important positions, especially in the Near and Middle East. It is depressing to read how misunderstandings poisoned American-British relations, especially after the First World War.⁴ The romantic struggle between big oil groups after the First World War may be regarded as terminated by 1927. The last battles were fought over the market in India and over securing supplies from Russia.⁵

² E.g., The Gulf Exploration Company (subsidiary of the Gulf Oil Corporation) had an equal share with Anglo-Iranian in the oil fields of Kuwait. The huge oil concessions in Saudi Arabia and Bahrein were owned in equal shares by the Standard Oil Company of California and the Texas Company. Cf. Herbert Feis, *Petroleum and American Foreign Policy* (Stanford University, 1944), pp. 32-33. See also Plummer, *International Combines*, pp. 7-8.

^{2*} See *New York Times*, August 22, 1944, p. 22.

³ See Plummer, *International Combines*, pp. 7 and 71-72; and Leith *et al.*, *World Minerals*, pp. 110 ff. See also Frederick Hausmann, "World Oil Control," *Social Research*, 1942, pp. 334 ff.

⁴ See Herbert Feis, *Petroleum*, *passim*.

⁵ Cf. Leith *et al.*, *World Minerals*, pp. 111 ff.; Glyn Roberts, *The Most Powerful Man in the World: The Life of Sir Henri Deterding* (New York, 1938), *passim*.

There is sufficient evidence to show that in 1928 Standard Oil Company of New Jersey and the Shell group made a comprehensive agreement about the maintenance of their power positions with reference to consumption⁶ in foreign markets and with reference to the acquisition of foreign oil interests. This agreement was called the "as is" agreement, or "Achnacarry" agreement.⁷ There is little doubt that this agreement maintained the status quo (as of 1928-29) of all American exporting companies. In addition, European, Asiatic, and Latin-American exporting groups, including producers, refiners, and marketers, that were American or Shell subsidiaries, adhered more or less informally to that agreement and to Jersey-Shell leadership. Several smaller oil groups remained outside and were regarded as disturbing elements.⁸ In addition, several other agreements were made between Jersey and the Shell-Anglo-Persian group. Available evidence indicates that the two principal world concerns regarded their close co-operation as very important.⁹ Their alliance remained the backbone of co-operation in oil. In other fields Jersey wanted to have a free hand in dealing with Shell.¹⁰ Considerable extension of the Jersey-Shell co-operation was contemplated in 1935 and later in 1939.¹¹ Though there was much quibbling as to whether Shell should be a full 50 per cent

⁶ In 1933 a discussion took place on whether consumption quotas are "relative" or "total" consumption quotas. One of the participants in the discussion wrote the following: "It is my understanding that quotas in the principal European markets such as England, Germany, and possibly Italy are on a relative percentage basis, while South America are on a total consumption basis. The latter likewise applies to the Far East. The relative percentage basis has proven recently very detrimental to the Anglo." See Bone Committee, *Patent Hearings*, Part 7, p. 3678. See also p. 486.

⁷ See Bone Committee, *Patent Hearings*, Part 7, pp. 3660, 3678, 3679.

⁸ See *The Economist*, Dec. 21, 1929, pp. 1196-97.

⁹ See Bone Committee, *Patent Hearings*, Part 7, p. 3676. The relationship between Jersey and Shell is excellently described by Jersey in the following words (quoted from *Ibid.*, p. 3683): "Anglo-Persian, Shell and Jersey not only enjoy the great bulk of the foreign marketing business but also control most of the low-cost foreign crude. Each of these companies has sufficient crude supplies to permit of its doing a still larger share of the total. No one of them, therefore, can expect to obtain an increased outlet for its own production at the expense of another. An attempt to do this, with each determined to hold his share, can only result in destructive prices and excessive duplication of facilities. On the other hand, if the three companies respect each other's position and co-operate with this primary fundamental in mind, it should be possible for them to maintain their aggregate share of the total business with satisfactory earnings and a minimum duplication of investment. It is believed that all of our people agree as to the essential need for the closest possible co-operation among those three companies in the foreign markets."

¹⁰ When Shell approached Jersey in 1938 to make a common front against IG, Jersey, according to a reliable report, stated its position as being "together with Shell only in the oil field." Cf. Bone Committee, *Patent Hearings*, Part 7, p. 3736.

¹¹ See Bone Committee, *Patent Hearings*, Part 7, pp. 3683-84, and 4121-23.

partner of Jersey in the ownership of patents and technological processes related to hydrogenation and refining of oil, there was no doubt that Shell should be a partner.¹²

In the United States in 1929 one serious attempt was made to bring petroleum exporters under two (interlocking) common controls. Two Webb-Pomerene associations were formed, the Export Petroleum Association, Inc., with seventeen members, and the Standard Oil Export Corporation, with six members.¹³ During 1929 and 1930 these export associations were in serious discussion with European groups concerning marketing collaboration.¹⁴ Though the two export associations existed up to 1936, their operation and collaboration had practically collapsed in 1931. This disintegration prompted Jersey to consider a possible dissolution of its agreements with Shell,¹⁵ although no change was made in their relationships.

This co-operation between the dominant export groups, Jersey and Shell, was never successful in building a comprehensive world-wide marketing control in petroleum. That they envisaged and desired such control is shown in a recent study subtitled "Impediments in cartelisation," written by one of the leaders of the oil industry.¹⁶ The building of a world-wide marketing control became more urgent with the onset of the great depression when petroleum prices on national and international markets dropped to a very low level.¹⁷ Rumanian producers, controlled by capitalistic groups of various nations, chiefly British, frustrated many attempts for collaboration by their exaggerated demands. After several conferences of prominent exporting groups, a meeting in Paris in July, 1932, was successful in bringing Rumania in line with a rather high export quota.¹⁸ The Soviets refused at that

¹² *Ibid.*, pp. 3658-59, 3662. One statement of Jersey reads: "... whether we wish to work out a general agreement for cross-licensing and pooling of exploitation profits with Shell throughout the world ... the importance of this question is far greater than the total of all others put together."—*Ibid.*, p. 3658.

¹³ TNEC, *Monograph No. 6*, pp. 187 and 218.

¹⁴ See Bone Committee, *Patent Hearings*, Part 7, p. 3677.

¹⁵ *Ibid.*, p. 3679.

¹⁶ J.B.A. Kessler, "The Oil Industry in the World Crisis," *International Cartels*, No. 1, 1939, pp. 2 ff.

¹⁷ The percentage change in average gold export prices of petroleum of United States from 1929 to 1938 is shown by the League of Nations (*Review of World Trade 1938*, p. 13) as follows:

1929 to 1932.....	—47	1935 to 1936.....	+ 8
1932 to 1933.....	—24	1936 to 1937.....	+10
1933 to 1934.....	—21	1937 to 1938...	— 9
1934 to 1935.....	—0.7	1929 to 1938.....	—66

¹⁸ *The Economist*, September 3, 1932, p. 425. About Rumanian and Russian competition, cf. Bone Committee, *Patent Hearings*, Part 7, p. 3679.

time to restrict their exports.¹⁹ However, the Rumanians kept to their export restrictions only a few weeks because (according to Rumania) Americans did not live up to their obligations required by the Paris Agreement and were responsible that prices did not rise as expected.²⁰

French, Italian, and German industrial and capitalistic groups were very ambitious to play a role on the world petroleum market. However, they had only moderate success.²¹

The export policies of the Soviet State Oil Trust were considered by Jersey and Shell as a disturbing element on international markets. There is little doubt that several attempts were made to arrive at some understanding with it, and although the Soviet Trust did not oppose co-operation in principle, it remained an outsider as far as Jersey and Shell were concerned.²²

According to Mr. R. W. Gallagher, President of the Standard Oil Company of New Jersey, Jersey was obliged to make restrictive agreements in France, Italy, Argentina, Uruguay, Chile, and other countries in order to be allowed to engage in the oil business there. He stated that in France, for instance, in order to promote domestic oil refining, the government in 1928 set up a system of import licenses which limited the amount of petroleum shipped into the country. It also issued licenses specifying the amount of crude petroleum a company could refine. A syndicate of practically all oil companies operating in France was formed. The government did not fix prices but controlled them to the extent that prices could not be lowered or increased without review by a government agency.²³

One of the most interesting international combinations showing British-American co-operation in petroleum is the so-called Red Line

¹⁹ Leith, *et al.*, *World Minerals*, p. 113.

²⁰ As a matter of fact, prices rose considerably after the conclusion of the Paris Agreement. Another reason for the Rumanian behavior is attributed to the fact that the Soviets did not participate in the arrangement. Cf. Leith, *et al.*, *World Minerals*, pp. 113-14, and Plummer, *Industrial Combines*, p. 72. According to Plummer (p. 73) the simultaneous rise of prices of Soviet petroleum points to some sort of understanding between the Soviets and other oil groups.

²¹ Cf. Louis Pineau and Others, *Le Pétrole et son Economie* (Paris, 1935), pp. 13 ff.

²² In February, 1934, J.B.A. Kessler charged in *Mining Journal* (London) that the Soviets were unco-operative and were cutting prices on world markets. In February, 1935, these charges were answered by a Soviet source in *World Petroleum* (New York). According to that source the Soviets declared themselves willing to co-operate in a collective organization of world petroleum markets, although they evaluated such collaboration as a mere "palliative" measure. See Glyn Roberts, *op. cit.*, p. 291.

²³ *A Statement by Ralph W. Gallagher* before the O'Mahoney Subcommittee of the Senate Committee on the Judiciary, May 23, 1944 (Pamphlet), published by Standard Oil Company of New Jersey (New York, 1944), p. 7.

Agreement. It relates to the production, transportation, refining, and marketing of the petroleum of Iraq. The main purpose of the agreement was to forestall British, American, and French competition in the acquisition of oil rights in Iraq. Shell and Anglo-Iranian has a 47½ per cent, and Standard Oil of New Jersey and Socony Vacuum Oil Company a 23⅔ per cent participation. French capital was interested as well. According to the President of Standard Oil of New Jersey, Ralph W. Gallagher, "As a condition of participation, the Americans agreed as the other (British, French, and Dutch) interests had already agreed, not to engage in petroleum activities in an area considerably more extensive than the concession area, except through the corporate vehicle operating the joint enterprise. But if America was to get any of the oil of Iraq, American companies had to accept these conditions."²⁴

During the Second World War new forms of co-operation among oil companies have been instituted. Technological progress has advanced rapidly in the last few years. The reader may obtain information about these technological developments, so far as they can be disclosed, in the documents of the Truman and Bone Committees of the United States Senate.

Desiring to eliminate friction on oil problems among governments in the postwar period, the American and British Governments started discussions in the spring of 1944. It was assumed that at a later date other governments would be invited. According to official statements not only broad principles but also specific problems relating to the production, distribution, and transportation of oil were discussed. Rumors that the conference had considered the outlawing of cartels between foreign oil companies were denied. In this respect, it is interesting to note the official statement to the press: "We were not dealing with the rationing of scarcity, and therefore with cartels. . . . The whole discussion was based on the belief that we will be dealing with expanding, not contracting markets."²⁵

Conferences among experts were followed by official discussions between the American and British Governments in Washington, D. C., July 25, 1944. The result was the Anglo-American Oil Accord, published August 8, 1944.²⁶ The Petroleum Industry War Council

²⁴ *Statement* before the O'Mahoney Subcommittee, *ibid.*, p. 7.

²⁵ See *The New York Times*, May 4, 1944, p. 9.

²⁶ The introductory article of the Anglo-American Oil Accord reads as follows: "The Government of the United States of America and the Government of the United Kingdom of Great Britain and Northern Ireland, whose nationals hold, to a substantial

formulated its objections to the oil compact and asked the Senate to reject the treaty. There is no hope that it will be approved by the Senate.²⁷ The Anglo-American Oil Accord laid out a pattern for agreements covering important commodities in international trade.

PHOSPHATE ROCK

Phosphate rock is employed principally in the production of phosphate fertilizers. The composition of the average American phosphate rock is about 33 per cent P_2O_5 . This compound contains 43 per cent phosphorus. A hundred units of phosphate rock, therefore, contain approximately 14.5 units of phosphorus. Of the manufactured fertilizers calcium hydrogen phosphate (superphosphate) is the best known. Superphosphates absorb about 80 per cent of the phosphate rock which goes into fertilizers. One tone of phosphate rock is converted into 1.8 tons of superphosphate in combination with sulphuric acid. Phosphate rock is also used in the manufacture of phosphoric acid, of various chemicals, and for metallurgical purposes.

Up to the twentieth century, the United States was the principal source of the phosphate supplies of the world. Today North Africa ranks as the largest exporter. Russia has also become a factor in the shipping of phosphate rock to world markets. Just before the Second World War, the North African exports of phosphate rock to ports outside of France amounted to more than 2,500,000 metric tons a year, while American exports averaged over 1,000,000 metric tons. In addi-

extent jointly, rights to explore and develop petroleum resources in other countries, recognize:

1. That ample supplies of petroleum, available in international trade to meet increasing market demands, are essential for both the security and economic well-being of nations;

2. That for the foreseeable future the petroleum resources of the world are adequate to assure the availability of such supplies;

3. That such supplies should be derived from the various producing areas of the world with due consideration of such factors as available reserves, sound engineering practices, relevant economic factors, and the interests of producing and consuming countries, and with a view to the full satisfaction of expanding demand;

4. That such supplies should be available in accordance with the principles of the Atlantic Charter and in order to serve the needs of collective security;

5. That the general adoption of these principles can best be promoted by international agreement among all countries interested in the petroleum trade whether as producers or consumers.—*The New York Times*, Aug. 9, 1944, p. 8.

²⁷ The recommendations of the American oil companies may be found in Feis, *Petroleum*, pp. 54 ff. J. H. Pew, President of the Sun Oil Company, assailed the Petroleum Pact as a step to "Super-State Cartel."—*The New York Times*, Aug. 21, 1944, p. 18. The objections of the Petroleum Industry War Council may be found in the *New York Times*, Dec. 3, 1944, p. 25.

tion, the United States exported yearly almost 100,000 metric tons of superphosphates.

United States exporters organized a Webb-Pomerene Association called the Phosphate Export Association (New York) in 1919. This group co-operated with the Florida Pebble Phosphate Export Association and the two were merged in 1933. The Phosphate Export Association had co-operative agreements with the Florida Hard Rock Phosphate Export Association. According to their report, they believed that "only by combining under the Webb law and acting as a unit, can the members meet the competition of foreign producers."¹ This association maintained a London sales office for Europe upon which is conferred broad discretionary power.

The American chances of exporting large quantities were pessimistically evaluated in a report of the Association of Land Grant Colleges and Universities and of the Department of Agriculture, October 7, 1935. The report says, "it is quite probable that our export trade in phosphate rock with Europe can be almost completely wiped out at any time that the North African producers desire to eliminate American competition."² Many experts would regard such pessimism as exaggerated.

Not much has been written about the cartellization of phosphate exports. According to Laurence Ballande collective marketing controls existed among the several exporting groups.³ One of the reasons for closer co-operation among phosphate producers was, according to United States Tariff Commission, inter-commodity competition among the different branches of fertilizers. It stated that competition had much to do with the establishment of cartels.⁴

World phosphate exports were regulated by an agreement established in 1933 and further amplified in 1934 and 1935. The cartel

¹ TNEC, *Monograph No. 6*, p. 210. According to a Press Release of the Federal Trade Commission, July 19, 1944, the Federal Trade Commission ordered an investigation under the Webb-Pomerene Law of each of the two export associations of phosphate producers (Phosphate Export Association and Florida Hard Rock Phosphate Export Association) "to determine whether they have entered into agreements and engaged in restraint-of-trade practices in violation of law."

² Phosphate Resources of the United States, *Hearings before the Joint Committee of the U. S. Congress, 1939*, p. 97. (Hereafter cited *Phosphate Hearings*.)

³ Ballande, *Ententes* pp. 105 ff. and 116. See also William Oualid, *International Raw Materials Cartels* (Paris, 1938), pp. 28 ff. (Hereafter cited Oualid, *Raw Materials Cartels*.) According to one report, "Largely as a result of the Dollar devaluation, a sales agreement between American and French exporters has been effected. The terms of the agreement are not known, but it is reported that American exporters are to have a certain percentage of the European market."—*Crude Phosphates and Superphosphates*, Report No. 100, Second Series of the U. S. Tariff Commission, 1935, p. 10.

⁴ U. S. Tariff Commission, *Chemical Nitrogen*, p. 80.

embraced practically the whole international market of phosphate rock. This collective marketing control consisted of five exporter groups.

1. *The American Group* was represented by the Phosphate Export Association in New York and its branch office in London. As mentioned before, this association included the Florida Pebble Phosphate Export Association and the Florida Hard Rock Export Association. According to Laurence Ballande, Florida Hard Rock joined the international cartel December 1, 1933.
2. *The North African group.* This combination consisted of two sub-units, the *Comptoir des Phosphates d'Algerie et de Tunisie*, consisting of six producers, established for a period of 30 years in the middle of 1933, and the *Office Cherifien des Phosphates* in Morocco. These two North African sub-units concluded an agreement on August 25, 1933, on quotas and common sales policies.
3. *The Dutch Curaçao group.* This group entered the agreement June 19, 1934. It represented about 2 per cent of the export market.
4. *The Egyptian group.* The *Società Egyptiana de Fosfati* and the Egyptian Phosphate Company. This group shipped considerable quantities to Europe and Japan. It maintained a separate sales comptoir in Paris for exports to the Japanese market.
5. *The Pacific group*, which joined the cartel in June, 1934, consisted of a French company, representing the producers of phosphates of the Ocean Islands, of the English Christmas Island Phosphate Company, and of the British Phosphate Commissioners of the Islands of Nauru and the Ocean Islands.⁵

In 1937, the world export shipments of phosphates in metric tons were, roughly:

United States	950,000
North Africa	4,000,000
Curaçao	100,000
Egypt	450,000
Pacific	1,420,000
The Soviet Union	600,000

⁵ The interests of the Pacific Phosphate Company in the Ocean and Nauru islands were bought by the British (42%), Australian (42%), and New Zealand (16%) Governments in 1919 for £3,500,000. See *Official Yearbook of the Commonwealth of Australia*, 1937 (Canberra, 1938), p. 308.

Whether or not Russia co-operated with the cartel is not known, but it is improbable that the Soviet Union was particularly ambitious to cut prices. The Russians exported to England a mineral concentrate (apatite) containing 80 per cent phosphate.

According to William Oualid, the International Phosphate Cartel had a special system to distribute sales among the groups.⁶

It is unknown how far the groups co-operated in price policies within or outside the cartel. The prices of phosphate rock⁷ between 1929 and 1937 as compiled by the U. S. Bureau of Labor Statistics were as follows: between 1929 and 1932 they remained at \$3.10; between 1933 and 1935 they fluctuated between \$2.99 and \$3.29; in December, 1935, they dropped precipitately to \$1.85 and remained at that level through 1937.⁸ Phosphate prices may be found in Table 16.

TABLE 16
YEARLY AVERAGE PHOSPHATE PRICES (IN GOLD FRANCS PER 100 KG., P₂O₅ CONTENT)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Florida (land-pebble, 68%)	5.20	5.20	5.20	5.20	4.11	3.07	3.21	1.80	1.79	1.79	1.84
N. Africa (58-63% f. o. b.)	6.34	6.34	6.99	6.55	6.55	6.55	6.55	5.03	3.28	..	....

Source: League of Nations, *Statistical Yearbook*, 1938-39, p. 167. The wide discrepancy between African and American prices after 1933 is not explained by the League.

According to William Oualid, there was no price discrimination on the exports market. The president of the Phosphate Export Association of the United States was somewhat less definite on this point.⁹ Mr. Oualid calls attention to certain advantages to the North African group arising from the fact that gold clauses in long-term contracts were invalid in France and her colonies.¹⁰ An authoritative source reports that according to a special arrangement, Great Britain was partially supplied by the Pacific group, and France by the North African group, both at a preferential price.¹¹

There is little doubt that the United States has immense phosphate resources which may be regarded as potential reserves for the whole

⁶ Oualid, *Raw Materials Cartels*, p. 30.

⁷ Florida land pebble, 68 per cent, in long ton, at mines.

⁸ *Phosphate Hearings*, p. 1180. Phosphate prices are listed, currently, in the weekly magazine *Oil, Paint and Drug Reporter*.

⁹ *Phosphate Hearings*, p. 984. Congressman Leavy asked, "And is the price uniform between the various importing nations?" Mr. Grace answered, "I would rather not answer that question. . . . I have to meet customers in all parts of the world, and they are like all buyers."

¹⁰ Oualid, *Raw Materials Cartels*, p. 31.

¹¹ *Phosphate Hearings*, p. 977.

world. The political significance of this fact was somewhat naïvely overestimated by the president of the American phosphate export groups, who said, "Probably no other raw material holds greater possibilities of contribution toward the maintenance of world-wide peace than phosphate rock."¹²

Since the main ingredient of superphosphate is phosphate, there is a close connection between the export markets of phosphate and superphosphates. Superphosphate is usually manufactured by a heat process of single or multiple acidulation. Up to 25 per cent with one acidulation of sulphuric acid, it is called superphosphate. From 25 per cent upward with a multiple acidulation of sulphuric acid, it is called concentrated superphosphate. A great percentage of the output of sulphuric acid is consumed in this industry. The production of superphosphate is of prime importance in the heavy chemical industry. The world exports of superphosphate often exceeded that of phosphates in value though less than one-half in volume.

There is even less material about the collaboration of exporters of superphosphate than of phosphate. Producers and exporters of superphosphate, except those of the United States and Japan, were united in an international trade association, the International Superphosphate Manufacturers' Association, established in 1927 in London. Twenty-five countries were represented in the membership. Their combined output was 63 per cent of world production. Several superphosphate manufacturers are also large producers of phosphate rock. The Association was not primarily concerned with the control of prices and supplies, but according to the opinion of Laurence Ballande, there existed several bilateral international marketing agreements in the framework of this association. Mrs. Ballande emphasizes the secrecy under which these agreements operated.¹³ Exports of superphosphates were of course indirectly controlled by the supply of raw materials. To establish a co-ordinated price policy involved certain difficulties because superphosphate could be produced very easily everywhere. The Association maintained a research laboratory in Hamburg and had a very extensive statistical service. A separate committee within the Association was in charge of propaganda in order to promote the sale of superphosphates.

¹² *Ibid.*

¹³ Ballande, *Ententes*, p. 118. See also U. S. Department of Agriculture, *Circular*, No. 718, Dec., 1944.

POTASH

Potash is a mineral which is generally found as chloride salt in mixture with sodium chloride and other materials. It is occasionally found concentrated enough to warrant selling it in its original form as a fertilizer but it is usually refined according to the requirements of the particular market for which it is destined. About 90 per cent of all potash produced is consumed in fertilizer, the other 10 per cent being used by chemical industries. There are various commercial forms of potassium salts (such as muriate of potash [potassium chloride], sulphate of potash, manure salts, etc.), used in the fertilizer industry. They are ordinarily measured in terms of "potash content" or potassium oxide (K_2O).

At the outbreak of war in 1939, Germany produced 60 per cent; France, 16½ per cent; the United States, 9½ per cent; and the U.S.S.R., 9 per cent of the world's marketable potash.¹ Sizeable quantities were also produced by Spain, Poland, and Palestine.

Before the First World War, Germany had practically a monopoly on the potash exported, but with the loss of the Alsatian mines to France at the end of the war and the development of new mines elsewhere, it lost its monopoly. The French potash industry made a strenuous campaign to secure a large part of the foreign markets, and its efforts, accompanied by postwar disorganization in Germany, proved fairly successful.² In the face of competition that sometimes became bitter, German and French exporters decided that their interests would be better served by conciliation. After preliminary proposals at Lugano, a final draft of an agreement was signed on December 29, 1926. This agreement and its subsequent operation have been highly publicized.³ The League of Nations' cartel report calls it "a perfect example of international co-operation based upon private agreement."⁴ One may justifiably question the "private" nature of the cartel, since it was concluded under strong pressure from the French and German Governments. Both participants, though formerly private organizations, were to a great extent dominated by their respective governments. The German Potash Syndicate was a compulsory cartel set up by special laws and the larger part of the French potash mines were government-owned properties which, together with

¹ TNEC, *Monograph 21*, p. 138.

² George Ward Stocking, *The Potash Industry* (New York, 1931), pp. 261 ff.

³ See Bertrand L. Johnston, "Potash," Bureau of Mines, *Economic Paper 16*, 1933, *passim*. See also Plummer, *International Combines*, pp. 264-67.

⁴ Benni *et al.*, *Industrial Agreements*, pp. 32 ff.

a smaller private company, comprised the *Société Commerciale de Potasse d'Alsace*, a real monopolistic organization.⁵ In a 1926 pact, the French participant assumed the obligation of seeing that all new mines and plants in France would adhere through their national compulsory organization to the international cartel. The agreement covered potash ores and related products. It became effective as of May 1, 1926, for ten years, and if not cancelled would remain in force for another five years. It was renewed in 1936. The agreement provided for home market protection, sales quotas, and common price policies. According to the text, export prices were to be determined by production costs and consideration of circumstances which would promote the use of fertilizers in each consumer country. Other pronouncements also emphasized the cartel's willingness to serve the interests of the consumers. Attached to the agreement were provisions concerning arbitration procedure.

The Spanish interests entered the agreement in 1928, followed by the Polish mines in 1932. According to C. K. Leith and others, the U.S.S.R. and Palestine were also brought within the price and quota system of the cartel.⁶ The Palestine group was anxious to join the cartel because it was tired of competition. According to several reports, Russia remained an outsider in the cartel⁷ though it stopped price-cutting because it feared reprisals.⁸

The United States was for many years the principal market for potash exporters. After the First World War the United States began to develop its own potash resources, and by the Second World War American capacity was sufficiently large to export potash to Canada and Japan and even to threaten entering the European market. In 1938, three American exporters formed a Webb-Pomerene Association, the Potash Export Association, Inc., in New York.

After its establishment (1926) the International Potash Cartel set up a special sales agency in the United States. The Department of

⁵ This agency was reorganized under the provisions of the Law of January 23, 1937. See Oualid, *Raw Materials Cartels*, p. 32.

⁶ Leith et al., *World Minerals*, p. 117. The Palestine method of production was extraction of potassium salts in evaporating pans by solar heat from the Dead Sea brine. The carnallite so obtained is decomposed in a special plant whereby commodities containing from 60 to 89 per cent potassium chloride are obtained. The export of muriate of potash in 1936 was 20,000 tons (80% K₂O). According to Dr. Heinrich Friedländer, *Kartelle*, p. 338, Palestine Potash, Ltd., entered the agreement in 1936. See also *Minerals Yearbook 1940* (1941), p. 1354.

⁷ *Kartell-Rundschau*, 1937, p. 298; Ballande, *Ententes*, p. 112; Plummer, *International Combines*, p. 100.

⁸ Staley, *Raw Materials*, p. 287.

Justice in 1927 instigated a lawsuit charging conspiracy to share the market and fix prices in violation of the Sherman Antitrust Act and the Wilson Tariff Act. The lawsuit ended in 1929 in a consent decree in which the exporters consented to stop the operation of their American sales organization. It is presumed, however, that this agreement did not greatly alter the structure of the American market. In the following year, a cartel sales agency was established in Amsterdam in the form of a commercial company⁹ with a branch office in New York. In the meantime, American domestic production had rapidly expanded. Of the three American producers, two were owned in part by Dutch and British interests. Over 90 per cent of the capital stock of the third American company was confiscated in 1942 by the United States Government because it was held by Germans acting through American investors.¹⁰ According to a TNEC report, American producers maintained friendly relations with the European cartel¹¹ following a sharp decrease in fertilizer prices at the end of 1934.¹² According to a report in 1935 an agreement was reached between the cartel and American producers ostensibly to carry on propaganda and research, but it was an open secret that it also related to imports.¹³ American producers were indicted in 1939 under the Sherman Act because of alleged co-operation in price policies among themselves and with the European cartel. On May 21, 1940, they signed a consent decree promising to refrain from combination.¹⁴

The price policies of the potash cartel were often attacked. It was stated that this natural monopoly was abused by Germany and France. People objected to the fact that the German and French Governments insisted on maintaining lower prices for their domestic markets than for export. Export prices of potash were not published.¹⁵

According to a report in 1939 the Japanese producers of potassium chlorate regarded their agreement of March 30, 1937, with the inter-

⁹ This agency, the Potash Export Maatschapy N.V., was indicted in 1939 in a proceeding under the Sherman Act which charged it with a conspiracy with American companies to control the American market. The complaint was dismissed because the agency had become inoperative by 1940. See TNEC, *Monograph No. 21*, p. 140.

¹⁰ *The New York Times*, July 17, 1944.

¹¹ *Monograph No. 21*, p. 139.

¹² According to the League of Nations, *Circular*, E. 1067, March 15, 1939, prices fell because of severe competition from the Palestine and Russian producers.

¹³ Royal Institute of International Affairs, *Raw Materials and Colonies* (London, 1936), p. 66.

¹⁴ TNEC, *Monograph No. 21*, p. 140.

¹⁵ The export value of 137,000 short tons of potash materials for fertilizer purposes, exported from the United States amounted to \$4,450,000. See *Minerals Yearbook*, 1941, p. 1460.

national cartel as unworkable. The reason was that the agreement allotted sales territories and export quotas, such as 55 per cent of the Chinese market, to Japan, which because of war conditions the Japanese could not utilize.¹⁰

SODIUM SULPHATE

Crude sodium sulphate, sometimes called salt cake, occurs in natural deposits in conjunction with other minerals and other sodium salts. One of the main sources of sodium sulphate is a by-product in the manufacture of various chemicals, particularly hydrochloric acid. Sodium sulphate is marketed in many forms. In commercial use it contains from 93 to 98 per cent sodium sulphate and varying amounts of impurities. The commercial form is known as salt cake. Refined sodium sulphate is marketed as Glauber's salts or anhydrous sodium sulphate. Salt cake is used mostly in the sulphate pulp industry, and Glauber's salts principally in textile dyeing.

Salt cake was subject to an international cartel called the European Salt Cake Association, established in 1926 with headquarters in London. The first members were located in the United Kingdom, France, Belgium, and Germany.¹ Later on, Chile became a member of the association when sulphate of soda was produced from Chilean nitrates. The Dutch producers also joined. In England, France, and Belgium there were important outsiders. The international cartel was reconstructed, effective as of June 20, 1930, and prolonged in 1935. Home markets were protected and export quotas and prices agreed upon. By provision of the cartel regulations the accord could be denounced if stocks surpassed a certain quantity. Exports from Germany, France, Belgium, and Holland were handled through a German company called The Sulphate Union. The Soviet Union produced a considerable quantity but her exports were small.² The cartel ceased operation in 1939.

There are reports of a separate entente for the sale of Glauber's salts.³

SULFUR

Sulfur is found not only in a natural state but also in combination with numerous metals, particularly iron and copper, as sul-

¹⁰ *Minerals Yearbook*, 1939, 1940, p. 1340.

¹ Among others, The Imperial Chemical Industries, Ltd., of London and the French chemical concern, Kuhlmann, were members.

² U. S. Tariff Commission, *Sodium Sulphate*; Ballande, *Ententes*, pp. 88 ff.; *Minerals Yearbook for 1938*, p. 1287. Exports of sodium sulphate from Germany in 1938 were estimated at 226,426 metric tons at a value of 6,320,000 marks. See Bureau of Foreign and Domestic Commerce, *World Chemical Developments*, 1938, p. 44.

³ See *Czechoslovak Cartel Book*, p. 228; Ballande, *Ententes*, p. 88.

phides which contain from 40 per cent to 50 per cent sulfur. Crude or native sulfur accounts for about 40 per cent of the world's consumption, while pyrites supply nearly 50 per cent. The remaining 10 per cent originates from gases discharged in smelting copper and zinc, from coal and lignite gases, and from gases captured in petroleum refining, all of which contain variable amounts of sulfur dioxide. Pyrites and gases, as a rule, are used directly to manufacture sulphuric acid, although crude sulfur may be and sometimes is extracted from them. There were before World War II several interesting international patent pools relating to processes for recovering sulfur dioxide and sulfur from gases.¹

From the point of view of international cartellization, native sulfur was more significant than sulfur in combinations. Crude sulfur, or brimstone, was produced largely from ores located in the United States, Italy, and Japan. In the middle thirties, the United States produced about 80 per cent, Italy 11 per cent, and Japan 6 per cent of the world's crude sulfur. The United States and Italy were the principal exporters and as such dominated the world market.

Regulation of the sulfur export market dates back more than a hundred years. In 1838, the Sicilian Government granted a private company a monopoly on the production and sale of sulfur. Financial and industrial interests in Great Britain were so severely affected by this action that the British Government not only protested but in 1840 issued an ultimatum accompanied by the seizure of Sicilian ships and the dispatch of naval units to Sicilian waters to induce the Sicilian Government to revoke the monopoly and settle the claims of British

¹ The Bureau of Foreign and Domestic Commerce (*World Chemical Developments 1938*, pp. 4-5), reports the following: "In 1938, considerable quantities of sulfur were recovered from gases in certain European countries. The patents covering processes for the recovery of sulfur from sulfurous gases developed in metallurgical operations, such as the roasting and smelting of sulfide ores, and owned by British and Swedish groups on one side and German and Swiss interests on the other, have been pooled. In 1934 the British group had developed a process for the production of 100 per cent dioxide from weak sulfur dioxide gas, and a plant is in operation . . . near Manchester. Since 1936, a plant has been in commercial production in Finland. British interests also patented a process for the reduction of concentrated sulfur dioxide to sulfur. In 1936, the British and the Swedish companies pooled their patents and processes and formed a company known as Sulfur Patents, Ltd., to handle licensing operation. In the meantime, sulfur recovery processes had been developed by a Swiss and German firm, and were competing with the processes of the British-Swedish group. Agreement has now been reached for pooling the patents and processes of the two groups. The patents will be handled by *Lurgi Chemie*, of Frankfurt, which will be responsible also for the marketing of the sulfur dioxide and sulfur produced by the processes of the four companies."

citizens.² The Sicilian Government capitulated for the time being but nevertheless continued to exert influence on the sulfur industry through various devices.

In 1905, the Italian sulfur industry suffered a severe setback partly as a result of over-production and partly because of keen American competition. At that time, the Union Sulfur Company of New Jersey had begun to ship sulfur to Europe. The reaction of the Italian Government was to strengthen its monopolistic organization by setting up a compulsory cartel in the law of July 15, 1906, which was amended in 1910.³ Representatives of the new compulsory cartel soon entered into negotiations with American interests to secure an agreement for mutual regulation of the international market. An arrangement was worked out between Herman Höchel, the manager of the Union Sulfur Company G.m.b.H. in Hamburg, Germany (which was the selling agent for the New Jersey company) and Pietro Lauro, General Manager of the *Consorzio Obbligatorio per l'Industria Solifera Siciliana*, in Palermo (Italy). The respective agreements were signed at Rome on November 23, 1907, and February 29, 1908. They were hastily cancelled by Herman Frasch (President of both the Hamburg and New Jersey companies), January 20-21, 1913, when the state of New Jersey passed laws prohibiting any combination whatsoever.⁴

After the First World War, American exporters concluded a new international cartel agreement with the *Consorzio Obbligatorio per l'Industria Solifera Siciliana* on March 14, 1923. These American exporters were represented by the Sulfur Export Corporation, New York, organized in 1922 under the Webb-Pomerene Act.⁵ After the *Consorzio* was dissolved by a decree of the Italian Government in 1933, a new cartel agreement was concluded on August 1, 1934, with the new Italian agency, *Ufficio per la Vendita dello Zolfo Italiano*. Its quota and price provisions became inoperative at the beginning of the Second World War.⁶ There is little doubt that the agreement estab-

² See Staley, *Raw Materials*, pp. 172-73.

³ See Federal Trade Commission, *Report on Co-operation in American Export Trade*, Part 1 (Washington, 1916), pp. 135 ff.

⁴ The agreements and the relevant correspondence is contained in TNEC, *Hearings*, Part 5, pp. 2219-26.

⁵ Before the Second World War the sulfur export business in the United States was carried by the Freeport Sulfur Co., and the Texas Gulf Sulfur Co. in a 50-50 sharing of exports. They were stockholders in the Sulfur Export Corporation on a 50-50 basis.

⁶ The U. S. Department of Justice, in a *Public Statement*, released March 20, 1940, entitled "Investigation of the Sulfur Industry," published a letter of the Sulfur Export Corporation dated February 5, 1940, which contains the following statements concerning the international sulfur agreement: "(1) the quota provisions have been suspended in

lished complete control over export supplies and markets and utilized export quotas as well.

In connection with this international cartel, the Sulfur Export Corporation concluded on April 1, 1936, arrangements for an agreement with the *Orkla Grube* A.B. (Orkla) of Lokkenverk, Norway, valid until December 31, 1941. According to this accord, the Orkla was obliged to limit its sales as to territory, quantity, and to set prices according to standards set up by this agreement. Orkla agreed not to grant a license on the patents covered in its Orkla sulfur recovery process to any outsider. The mutual purchasing of other patents was also agreed upon.

Sulfur prices on international markets may be judged from the prices at the mine in the United States. Between 1923 and 1925 these prices per long ton fluctuated between \$15.50 and \$16.30. Between 1926 and 1938 prices remained (with very small deviations from 1926 to 1930) at the level of \$18.00. After 1938 until the outbreak of the Second World War the price level moved around \$16.00. However, the United States Department of Justice reports that "While published quotations showed a price of \$18.00 per ton for bright sulfur at the mines for several years prior to the fall of 1938, and \$16.00 per ton since, actual prices for various grades, as shown by sales invoices were substantially lower than the published prices during both periods."⁷ In the international sulfur agreements, found in Appendix VIII, the reader will find uniform prices that relate to the world market. Furthermore, the agreements indicate that sulfur was sold at cheaper prices when it was to be converted into sulphuric acid.

It is interesting to compare the rigidity of sulfur prices with the movement of prices for pyrites, which may be regarded as an element in intercommodity competition with sulfur. Pyrite prices remained at the level of 12 cents per unit (f.a.f. United States ports), between 1931 and 1938. Between 1923 and 1930 they fluctuated between 11.5 and 13 cents.⁸

Significant international agreements concerning sulfur are most characteristic of modern cartellization.

view of the unworkability resulting from upset international conditions, and (2) the war abroad and attendant shipping conditions make its price provisions ineffective as a practical matter. Foreign sales of sulfur are now at higher price levels than those contemplated by the agreement."

⁷ *Public Statement* on the "Investigation of the Sulfur Industry," released March 20, 1940, by the Department of Justice.

⁸ TNEC, *Hearings*, Part 5, p. 2203.

RAW MATERIALS NOT OTHERWISE CLASSIFIED

COAL

Abundant material concerning the attempts of private entrepreneur groups and governments to arrive at a comprehensive agreement aiming at collective marketing of coal on world markets is available. Negotiations lasting more than fifteen years were continually frustrated. Even the recommendations of the League of Nations in an Interim Report (1929)¹ proved unfruitful. The major obstacles to an agreement were overcome and general co-operation seemed near when the threat of war became a certainty.

Entrepreneur associations in Great Britain and Poland established on December 6, 1934, effective January 1, 1935, an Anglo-Polish export cartel covering coal exports exclusive of bunker coal. This agreement lasted up to the Second World War but it operated under great difficulties. On the one hand, German coal exports disturbed Anglo-Polish co-operation; on the other hand, the British did not like the keen competition from the Poles in bunker coal, though bunker coal was not subject to regulation.² The British-Polish agreement furthermore suffered from the fact that Poland insisted on increased quotas to fight German competition. When these were not granted, Poland exceeded her quota. After the three-year agreement, which applied primarily to the Scandinavian markets, was renewed at the end of 1937, the Polish producers demanded and received tonnage concessions. Price policies of the cartel also suffered from strong outside pressure. The cartel had arrangements with coal importer organizations concerning imports to France, Denmark, Norway, and Sweden.³ After the Munich Agreement, the Polish participants again asked for a larger quota because of their seizure of Czechoslovak collieries.⁴

In June, 1934, a Franco-British trade agreement was made in connection with the importing of coal into France. Combined with the agreement were provisions for the barter of pitwood and iron ore. The French were given the right to terminate the agreement if a British-German or a general coal cartel agreement should be arrived at.⁵

An effort to reach an international coal agreement was made at a meeting at The Hague at the end of July, 1938. German, British,

¹ *Document*, 1933. II B5. See also *Journal of the London Monetary and Economic Conference*, July 26, 1933, p. 247.

² *The Economist*, August 14, 1937, p. 336.

³ *Political and Economic Yearbook* 1938, Warsaw, p. 761.

⁴ *The Economist*, March 4, 1939, p. 464. ⁵ *Ibid.*, December 24, 1938, p. 674.

partner of Jersey in the ownership of patents and technological processes related to hydrogenation and refining of oil, there was no doubt that Shell should be a partner.¹²

In the United States in 1929 one serious attempt was made to bring petroleum exporters under two (interlocking) common controls. Two Webb-Pomerene associations were formed, the Export Petroleum Association, Inc., with seventeen members, and the Standard Oil Export Corporation, with six members.¹³ During 1929 and 1930 these export associations were in serious discussion with European groups concerning marketing collaboration.¹⁴ Though the two export associations existed up to 1936, their operation and collaboration had practically collapsed in 1931. This disintegration prompted Jersey to consider a possible dissolution of its agreements with Shell,¹⁵ although no change was made in their relationships.

This co-operation between the dominant export groups, Jersey and Shell, was never successful in building a comprehensive world-wide marketing control in petroleum. That they envisaged and desired such control is shown in a recent study subtitled "Impediments in cartelisation," written by one of the leaders of the oil industry.¹⁶ The building of a world-wide marketing control became more urgent with the onset of the great depression when petroleum prices on national and international markets dropped to a very low level.¹⁷ Rumanian producers, controlled by capitalistic groups of various nations, chiefly British, frustrated many attempts for collaboration by their exaggerated demands. After several conferences of prominent exporting groups, a meeting in Paris in July, 1932, was successful in bringing Rumania in line with a rather high export quota.¹⁸ The Soviets refused at that

¹² *Ibid.*, pp. 3658-59, 3662. One statement of Jersey reads: "... whether we wish to work out a general agreement for cross-licensing and pooling of exploitation profits with Shell throughout the world ... the importance of this question is far greater than the total of all others put together."—*Ibid.*, p. 3658.

¹³ TNEC, *Monograph No. 6*, pp. 187 and 218.

¹⁴ See Bone Committee, *Patent Hearings*, Part 7, p. 3677.

¹⁵ *Ibid.*, p. 3679.

¹⁶ J.B.A. Kessler, "The Oil Industry in the World Crisis," *International Cartels*, No. 1, 1939, pp. 2 ff.

¹⁷ The percentage change in average gold export prices of petroleum of United States from 1929 to 1938 is shown by the League of Nations (*Review of World Trade 1938*, p. 13) as follows:

1929 to 1932.....	—47	1935 to 1936.....	+ 8
1932 to 1933	—24	1936 to 1937.....	+10
1933 to 1934.....	—21	1937 to 1938.....	— 9
1934 to 1935.....	—0.7	1929 to 1938.....	—66

¹⁸ *The Economist*, September 3, 1932, p. 425. About Rumanian and Russian competition, cf. Bone Committee, *Patent Hearings*, Part 7, p. 3679.

time to restrict their exports.¹⁹ However, the Rumanians kept to their export restrictions only a few weeks because (according to Rumania) Americans did not live up to their obligations required by the Paris Agreement and were responsible that prices did not rise as expected.²⁰

French, Italian, and German industrial and capitalistic groups were very ambitious to play a role on the world petroleum market. However, they had only moderate success.²¹

The export policies of the Soviet State Oil Trust were considered by Jersey and Shell as a disturbing element on international markets. There is little doubt that several attempts were made to arrive at some understanding with it, and although the Soviet Trust did not oppose co-operation in principle, it remained an outsider as far as Jersey and Shell were concerned.²²

According to Mr. R. W. Gallagher, President of the Standard Oil Company of New Jersey, Jersey was obliged to make restrictive agreements in France, Italy, Argentina, Uruguay, Chile, and other countries in order to be allowed to engage in the oil business there. He stated that in France, for instance, in order to promote domestic oil refining, the government in 1928 set up a system of import licenses which limited the amount of petroleum shipped into the country. It also issued licenses specifying the amount of crude petroleum a company could refine. A syndicate of practically all oil companies operating in France was formed. The government did not fix prices but controlled them to the extent that prices could not be lowered or increased without review by a government agency.²³

One of the most interesting international combinations showing British-American co-operation in petroleum is the so-called Red Line

¹⁹ Leith, *et al.*, *World Minerals*, p. 113.

²⁰ As a matter of fact, prices rose considerably after the conclusion of the Paris Agreement. Another reason for the Rumanian behavior is attributed to the fact that the Soviets did not participate in the arrangement. Cf. Leith, *et al.*, *World Minerals*, pp. 113-14, and Plummer, *Industrial Combines*, p. 72. According to Plummer (p. 73) the simultaneous rise of prices of Soviet petroleum points to some sort of understanding between the Soviets and other oil groups.

²¹ Cf. Louis Pineau and Others, *Le Pétrole et son Economie* (Paris, 1935), pp. 13 ff.

²² In February, 1934, J.B.A. Kessler charged in *Mining Journal* (London) that the Soviets were unco-operative and were cutting prices on world markets. In February, 1935, these charges were answered by a Soviet source in *World Petroleum* (New York). According to that source the Soviets declared themselves willing to co-operate in a collective organization of world petroleum markets, although they evaluated such collaboration as a mere "palliative" measure. See Glyn Roberts, *op. cit.*, p. 291.

²³ *A Statement by Ralph W. Gallagher* before the O'Mahoney Subcommittee of the Senate Committee on the Judiciary, May 23, 1944 (Pamphlet), published by Standard Oil Company of New Jersey (New York, 1944), p. 7.

Agreement. It relates to the production, transportation, refining, and marketing of the petroleum of Iraq. The main purpose of the agreement was to forestall British, American, and French competition in the acquisition of oil rights in Iraq. Shell and Anglo-Iranian has a $47\frac{1}{2}$ per cent, and Standard Oil of New Jersey and Socony Vacuum Oil Company a $23\frac{2}{3}$ per cent participation. French capital was interested as well. According to the President of Standard Oil of New Jersey, Ralph W. Gallagher, "As a condition of participation, the Americans agreed as the other (British, French, and Dutch) interests had already agreed, not to engage in petroleum activities in an area considerably more extensive than the concession area, except through the corporate vehicle operating the joint enterprise. But if America was to get any of the oil of Iraq, American companies had to accept these conditions."²⁴

During the Second World War new forms of co-operation among oil companies have been instituted. Technological progress has advanced rapidly in the last few years. The reader may obtain information about these technological developments, so far as they can be disclosed, in the documents of the Truman and Bone Committees of the United States Senate.

Desiring to eliminate friction on oil problems among governments in the postwar period, the American and British Governments started discussions in the spring of 1944. It was assumed that at a later date other governments would be invited. According to official statements not only broad principles but also specific problems relating to the production, distribution, and transportation of oil were discussed. Rumors that the conference had considered the outlawing of cartels between foreign oil companies were denied. In this respect, it is interesting to note the official statement to the press: "We were not dealing with the rationing of scarcity, and therefore with cartels. . . . The whole discussion was based on the belief that we will be dealing with expanding, not contracting markets."²⁵

Conferences among experts were followed by official discussions between the American and British Governments in Washington, D. C., July 25, 1944. The result was the Anglo-American Oil Accord, published August 8, 1944.²⁶ The Petroleum Industry War Council

²⁴ Statement before the O'Mahoney Subcommittee, *ibid.*, p. 7.

²⁵ See *The New York Times*, May 4, 1944, p. 9.

²⁶ The introductory article of the Anglo-American Oil Accord reads as follows: "The Government of the United States of America and the Government of the United Kingdom of Great Britain and Northern Ireland, whose nationals hold, to a substantial

formulated its objections to the oil compact and asked the Senate to reject the treaty. There is no hope that it will be approved by the Senate.²⁷ The Anglo-American Oil Accord laid out a pattern for agreements covering important commodities in international trade.

PHOSPHATE ROCK

Phosphate rock is employed principally in the production of phosphate fertilizers. The composition of the average American phosphate rock is about 33 per cent P_2O_5 . This compound contains 43 per cent phosphorus. A hundred units of phosphate rock, therefore, contain approximately 14.5 units of phosphorus. Of the manufactured fertilizers calcium hydrogen phosphate (superphosphate) is the best known. Superphosphates absorb about 80 per cent of the phosphate rock which goes into fertilizers. One tone of phosphate rock is converted into 1.8 tons of superphosphate in combination with sulphuric acid. Phosphate rock is also used in the manufacture of phosphoric acid, of various chemicals, and for metallurgical purposes.

Up to the twentieth century, the United States was the principal source of the phosphate supplies of the world. Today North Africa ranks as the largest exporter. Russia has also become a factor in the shipping of phosphate rock to world markets. Just before the Second World War, the North African exports of phosphate rock to ports outside of France amounted to more than 2,500,000 metric tons a year, while American exports averaged over 1,000,000 metric tons. In addi-

extent jointly, rights to explore and develop petroleum resources in other countries, recognize:

1. That ample supplies of petroleum, available in international trade to meet increasing market demands, are essential for both the security and economic well-being of nations;

2. That for the foreseeable future the petroleum resources of the world are adequate to assure the availability of such supplies;

3. That such supplies should be derived from the various producing areas of the world with due consideration of such factors as available reserves, sound engineering practices, relevant economic factors, and the interests of producing and consuming countries, and with a view to the full satisfaction of expanding demand;

4. That such supplies should be available in accordance with the principles of the Atlantic Charter and in order to serve the needs of collective security;

5. That the general adoption of these principles can best be promoted by international agreement among all countries interested in the petroleum trade whether as producers or consumers.—*The New York Times*, Aug. 9, 1944, p. 8.

²⁷ The recommendations of the American oil companies may be found in Feis, *Petroleum*, pp. 54 ff. J. H. Pew, President of the Sun Oil Company, assailed the Petroleum Pact as a step to "Super-State Cartel."—*The New York Times*, Aug. 21, 1944, p. 18. The objections of the Petroleum Industry War Council may be found in the *New York Times*, Dec. 3, 1944, p. 25.

tion, the United States exported yearly almost 100,000 metric tons of superphosphates.

United States exporters organized a Webb-Pomerene Association called the Phosphate Export Association (New York) in 1919. This group co-operated with the Florida Pebble Phosphate Export Association and the two were merged in 1933. The Phosphate Export Association had co-operative agreements with the Florida Hard Rock Phosphate Export Association. According to their report, they believed that "only by combining under the Webb law and acting as a unit, can the members meet the competition of foreign producers."¹ This association maintained a London sales office for Europe upon which is conferred broad discretionary power.

The American chances of exporting large quantities were pessimistically evaluated in a report of the Association of Land Grant Colleges and Universities and of the Department of Agriculture, October 7, 1935. The report says, "it is quite probable that our export trade in phosphate rock with Europe can be almost completely wiped out at any time that the North African producers desire to eliminate American competition."² Many experts would regard such pessimism as exaggerated.

Not much has been written about the cartellization of phosphate exports. According to Laurence Ballande collective marketing controls existed among the several exporting groups.³ One of the reasons for closer co-operation among phosphate producers was, according to United States Tariff Commission, inter-commodity competition among the different branches of fertilizers. It stated that competition had much to do with the establishment of cartels.⁴

World phosphate exports were regulated by an agreement established in 1933 and further amplified in 1934 and 1935. The cartel

¹ TNEC, *Monograph No. 6*, p. 210. According to a Press Release of the Federal Trade Commission, July 19, 1944, the Federal Trade Commission ordered an investigation under the Webb-Pomerene Law of each of the two export associations of phosphate producers (Phosphate Export Association and Florida Hard Rock Phosphate Export Association) "to determine whether they have entered into agreements and engaged in restraint-of-trade practices in violation of law."

² Phosphate Resources of the United States, Hearings before the Joint Committee of the U. S. Congress, 1939, p. 97. (Hereafter cited *Phosphate Hearings*.)

³ Ballande, *Ententes* pp. 105 ff. and 116. See also William Oualid, *International Raw Materials Cartels* (Paris, 1938), pp. 28 ff. (Hereafter cited Oualid, *Raw Materials Cartels*.) According to one report, "Largely as a result of the Dollar devaluation, a sales agreement between American and French exporters has been effected. The terms of the agreement are not known, but it is reported that American exporters are to have a certain percentage of the European market."—*Crude Phosphates and Superphosphates*, Report No. 100, Second Series of the U. S. Tariff Commission, 1935, p. 10.

⁴ U. S. Tariff Commission, *Chemical Nitrogen*, p. 80.

embraced practically the whole international market of phosphate rock. This collective marketing control consisted of five exporter groups.

1. *The American Group* was represented by the Phosphate Export Association in New York and its branch office in London. As mentioned before, this association included the Florida Pebble Phosphate Export Association and the Florida Hard Rock Export Association. According to Laurence Ballande, Florida Hard Rock joined the international cartel December 1, 1933.
2. *The North African group.* This combination consisted of two sub-units, the *Comptoir des Phosphates d'Algerie et de Tunisie*, consisting of six producers, established for a period of 30 years in the middle of 1933, and the *Office Cherifien des Phosphates* in Morocco. These two North African sub-units concluded an agreement on August 25, 1933, on quotas and common sales policies.
3. *The Dutch Curaçao group.* This group entered the agreement June 19, 1934. It represented about 2 per cent of the export market.
4. *The Egyptian group.* The *Società Egyptiana de Fosfati* and the Egyptian Phosphate Company. This group shipped considerable quantities to Europe and Japan. It maintained a separate sales comptoir in Paris for exports to the Japanese market.
5. *The Pacific group*, which joined the cartel in June, 1934, consisted of a French company, representing the producers of phosphates of the Ocean Islands, of the English Christmas Island Phosphate Company, and of the British Phosphate Commissioners of the Islands of Nauru and the Ocean Islands.⁵

In 1937, the world export shipments of phosphates in metric tons were, roughly:

United States	950,000
North Africa	4,000,000
Curaçao	100,000
Egypt	450,000
Pacific	1,420,000
The Soviet Union	600,000

⁵ The interests of the Pacific Phosphate Company in the Ocean and Nauru islands were bought by the British (42%), Australian (42%), and New Zealand (16%) Governments in 1919 for £3,500,000. See *Official Yearbook of the Commonwealth of Australia*, 1937 (Canberra, 1938), p. 308.

Whether or not Russia co-operated with the cartel is not known, but it is improbable that the Soviet Union was particularly ambitious to cut prices. The Russians exported to England a mineral concentrate (apatite) containing 80 per cent phosphate.

According to William Oualid, the International Phosphate Cartel had a special system to distribute sales among the groups.⁶

It is unknown how far the groups co-operated in price policies within or outside the cartel. The prices of phosphate rock⁷ between 1929 and 1937 as compiled by the U. S. Bureau of Labor Statistics were as follows: between 1929 and 1932 they remained at \$3.10; between 1933 and 1935 they fluctuated between \$2.99 and \$3.29; in December, 1935, they dropped precipitately to \$1.85 and remained at that level through 1937.⁸ Phosphate prices may be found in Table 16.

TABLE 16
YEARLY AVERAGE PHOSPHATE PRICES (IN GOLD FRANCS PER 100 KG., P₂O₅ CONTENT)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Florida (land-pebble, 68%) .	5.20	5.20	5.20	5.20	4.11	3.07	3.21	1.80	1.79	1.79	1.84
N. Africa (58-63% f. o. b.) .	6.34	6.34	6.99	6.55	6.55	6.55	6.55	5.03	3.28	...	...

Source: League of Nations, *Statistical Yearbook*, 1938-39, p. 167. The wide discrepancy between African and American prices after 1935 is not explained by the League.

According to William Oualid, there was no price discrimination on the exports market. The president of the Phosphate Export Association of the United States was somewhat less definite on this point.⁹ Mr. Oualid calls attention to certain advantages to the North African group arising from the fact that gold clauses in long-term contracts were invalid in France and her colonies.¹⁰ An authoritative source reports that according to a special arrangement, Great Britain was partially supplied by the Pacific group, and France by the North African group, both at a preferential price.¹¹

There is little doubt that the United States has immense phosphate resources which may be regarded as potential reserves for the whole

⁶ Oualid, *Raw Materials Cartels*, p. 30.

⁷ Florida land pebble, 68 per cent, in long ton, at mines.

⁸ *Phosphate Hearings*, p. 1180. Phosphate prices are listed, currently, in the weekly magazine *Oil, Paint and Drug Reporter*.

⁹ *Phosphate Hearings*, p. 984. Congressman Leavy asked, "And is the price uniform between the various importing nations?" Mr. Grace answered, "I would rather not answer that question. . . . I have to meet customers in all parts of the world, and they are like all buyers."

¹⁰ Oualid, *Raw Materials Cartels*, p. 31.

¹¹ *Phosphate Hearings*, p. 977.

world. The political significance of this fact was somewhat naïvely overestimated by the president of the American phosphate export groups, who said, "Probably no other raw material holds greater possibilities of contribution toward the maintenance of world-wide peace than phosphate rock."¹²

Since the main ingredient of superphosphate is phosphate, there is a close connection between the export markets of phosphate and superphosphates. Superphosphate is usually manufactured by a heat process of single or multiple acidulation. Up to 25 per cent with one acidulation of sulphuric acid, it is called superphosphate. From 25 per cent upward with a multiple acidulation of sulphuric acid, it is called concentrated superphosphate. A great percentage of the output of sulphuric acid is consumed in this industry. The production of superphosphate is of prime importance in the heavy chemical industry. The world exports of superphosphate often exceeded that of phosphates in value though less than one-half in volume.

There is even less material about the collaboration of exporters of superphosphate than of phosphate. Producers and exporters of superphosphate, except those of the United States and Japan, were united in an international trade association, the International Superphosphate Manufacturers' Association, established in 1927 in London. Twenty-five countries were represented in the membership. Their combined output was 63 per cent of world production. Several superphosphate manufacturers are also large producers of phosphate rock. The Association was not primarily concerned with the control of prices and supplies, but according to the opinion of Laurence Ballande, there existed several bilateral international marketing agreements in the framework of this association. Mrs. Ballande emphasizes the secrecy under which these agreements operated.¹³ Exports of superphosphates were of course indirectly controlled by the supply of raw materials. To establish a co-ordinated price policy involved certain difficulties because superphosphate could be produced very easily everywhere. The Association maintained a research laboratory in Hamburg and had a very extensive statistical service. A separate committee within the Association was in charge of propaganda in order to promote the sale of superphosphates.

¹² *Ibid.*

¹³ Ballande, *Ententes*, p. 118. See also U. S. Department of Agriculture, *Circular*, No. 718, Dec., 1944.

POTASH

Potash is a mineral which is generally found as chloride salt in mixture with sodium chloride and other materials. It is occasionally found concentrated enough to warrant selling it in its original form as a fertilizer but it is usually refined according to the requirements of the particular market for which it is destined. About 90 per cent of all potash produced is consumed in fertilizer, the other 10 per cent being used by chemical industries. There are various commercial forms of potassium salts (such as muriate of potash [potassium chloride], sulphate of potash, manure salts, etc.), used in the fertilizer industry. They are ordinarily measured in terms of "potash content" or potassium oxide (K_2O).

At the outbreak of war in 1939, Germany produced 60 per cent; France, 16½ per cent; the United States, 9½ per cent; and the U.S.S.R., 9 per cent of the world's marketable potash.¹ Sizeable quantities were also produced by Spain, Poland, and Palestine.

Before the First World War, Germany had practically a monopoly on the potash exported, but with the loss of the Alsatian mines to France at the end of the war and the development of new mines elsewhere, it lost its monopoly. The French potash industry made a strenuous campaign to secure a large part of the foreign markets, and its efforts, accompanied by postwar disorganization in Germany, proved fairly successful.² In the face of competition that sometimes became bitter, German and French exporters decided that their interests would be better served by conciliation. After preliminary proposals at Lugano, a final draft of an agreement was signed on December 29, 1926. This agreement and its subsequent operation have been highly publicized.³ The League of Nations' cartel report calls it "a perfect example of international co-operation based upon private agreement."⁴ One may justifiably question the "private" nature of the cartel, since it was concluded under strong pressure from the French and German Governments. Both participants, though formerly private organizations, were to a great extent dominated by their respective governments. The German Potash Syndicate was a compulsory cartel set up by special laws and the larger part of the French potash mines were government-owned properties which, together with

¹ TNEC, *Monograph 21*, p. 138.

² George Ward Stocking, *The Potash Industry* (New York, 1931), pp. 261 ff.

³ See Bertrand L. Johnston, "Potash," Bureau of Mines, *Economic Paper 16*, 1933, *passim*. See also Plummer, *International Combines*, pp. 264-67.

⁴ Benni *et al.*, *Industrial Agreements*, pp. 32 ff.

a smaller private company, comprised the *Société Commerciale de Potasse d'Alsace*, a real monopolistic organization.⁵ In a 1926 pact, the French participant assumed the obligation of seeing that all new mines and plants in France would adhere through their national compulsory organization to the international cartel. The agreement covered potash ores and related products. It became effective as of May 1, 1926, for ten years, and if not cancelled would remain in force for another five years. It was renewed in 1936. The agreement provided for home market protection, sales quotas, and common price policies. According to the text, export prices were to be determined by production costs and consideration of circumstances which would promote the use of fertilizers in each consumer country. Other pronouncements also emphasized the cartel's willingness to serve the interests of the consumers. Attached to the agreement were provisions concerning arbitration procedure.

The Spanish interests entered the agreement in 1928, followed by the Polish mines in 1932. According to C. K. Leith and others, the U.S.S.R. and Palestine were also brought within the price and quota system of the cartel.⁶ The Palestine group was anxious to join the cartel because it was tired of competition. According to several reports, Russia remained an outsider in the cartel⁷ though it stopped price-cutting because it feared reprisals.⁸

The United States was for many years the principal market for potash exporters. After the First World War the United States began to develop its own potash resources, and by the Second World War American capacity was sufficiently large to export potash to Canada and Japan and even to threaten entering the European market. In 1938, three American exporters formed a Webb-Pomerene Association, the Potash Export Association, Inc., in New York.

After its establishment (1926) the International Potash Cartel set up a special sales agency in the United States. The Department of

⁵ This agency was reorganized under the provisions of the Law of January 23, 1937. See Oualid, *Raw Materials Cartels*, p. 32.

⁶ Leith *et al.*, *World Minerals*, p. 117. The Palestine method of production was extraction of potassium salts in evaporating pans by solar heat from the Dead Sea brine. The carnallite so obtained is decomposed in a special plant whereby commodities containing from 60 to 89 per cent potassium chloride are obtained. The export of muriate of potash in 1936 was 20,000 tons (80% K₂O). According to Dr. Heinrich Friedländer, *Kartelle*, p. 338, Palestine Potash, Ltd., entered the agreement in 1936. See also *Minerals Yearbook 1940* (1941), p. 1354.

⁷ *Kartell-Rundschau*, 1937, p. 298; Ballande, *Ententes*, p. 112; Plummer, *International Combines*, p. 100.

⁸ Staley, *Raw Materials*, p. 287.

Justice in 1927 instigated a lawsuit charging conspiracy to share the market and fix prices in violation of the Sherman Antitrust Act and the Wilson Tariff Act. The lawsuit ended in 1929 in a consent decree in which the exporters consented to stop the operation of their American sales organization. It is presumed, however, that this agreement did not greatly alter the structure of the American market. In the following year, a cartel sales agency was established in Amsterdam in the form of a commercial company⁹ with a branch office in New York. In the meantime, American domestic production had rapidly expanded. Of the three American producers, two were owned in part by Dutch and British interests. Over 90 per cent of the capital stock of the third American company was confiscated in 1942 by the United States Government because it was held by Germans acting through American investors.¹⁰ According to a TNEC report, American producers maintained friendly relations with the European cartel¹¹ following a sharp decrease in fertilizer prices at the end of 1934.¹² According to a report in 1935 an agreement was reached between the cartel and American producers ostensibly to carry on propaganda and research, but it was an open secret that it also related to imports.¹³ American producers were indicted in 1939 under the Sherman Act because of alleged co-operation in price policies among themselves and with the European cartel. On May 21, 1940, they signed a consent decree promising to refrain from combination.¹⁴

The price policies of the potash cartel were often attacked. It was stated that this natural monopoly was abused by Germany and France. People objected to the fact that the German and French Governments insisted on maintaining lower prices for their domestic markets than for export. Export prices of potash were not published.¹⁵

According to a report in 1939 the Japanese producers of potassium chlorate regarded their agreement of March 30, 1937, with the inter-

⁹ This agency, the Potash Export Maatschapy N.V., was indicted in 1939 in a proceeding under the Sherman Act which charged it with a conspiracy with American companies to control the American market. The complaint was dismissed because the agency had become inoperative by 1940. See TNEC, *Monograph No. 21*, p. 140.

¹⁰ *The New York Times*, July 17, 1944.

¹¹ *Monograph No. 21*, p. 139.

¹² According to the League of Nations, *Circular*, E. 1067, March 15, 1939, prices fell because of severe competition from the Palestine and Russian producers.

¹³ Royal Institute of International Affairs, *Raw Materials and Colonies* (London, 1936), p. 66.

¹⁴ TNEC, *Monograph No. 21*, p. 140.

¹⁵ The export value of 137,000 short tons of potash materials for fertilizer purposes, exported from the United States amounted to \$4,450,000. See *Minerals Yearbook*, 1941, p. 1460.

national cartel as unworkable. The reason was that the agreement allotted sales territories and export quotas, such as 55 per cent of the Chinese market, to Japan, which because of war conditions the Japanese could not utilize.¹⁶

SODIUM SULPHATE

Crude sodium sulphate, sometimes called salt cake, occurs in natural deposits in conjunction with other minerals and other sodium salts. One of the main sources of sodium sulphate is a by-product in the manufacture of various chemicals, particularly hydrochloric acid. Sodium sulphate is marketed in many forms. In commercial use it contains from 93 to 98 per cent sodium sulphate and varying amounts of impurities. The commercial form is known as salt cake. Refined sodium sulphate is marketed as Glauber's salts or anhydrous sodium sulphate. Salt cake is used mostly in the sulphate pulp industry, and Glauber's salts principally in textile dyeing.

Salt cake was subject to an international cartel called the European Salt Cake Association, established in 1926 with headquarters in London. The first members were located in the United Kingdom, France, Belgium, and Germany.¹ Later on, Chile became a member of the association when sulphate of soda was produced from Chilean nitrates. The Dutch producers also joined. In England, France, and Belgium there were important outsiders. The international cartel was reconstructed, effective as of June 20, 1930, and prolonged in 1935. Home markets were protected and export quotas and prices agreed upon. By provision of the cartel regulations the accord could be denounced if stocks surpassed a certain quantity. Exports from Germany, France, Belgium, and Holland were handled through a German company called The Sulphate Union. The Soviet Union produced a considerable quantity but her exports were small.² The cartel ceased operation in 1939.

There are reports of a separate entente for the sale of Glauber's salts.³

SULFUR

Sulfur is found not only in a natural state but also in combination with numerous metals, particularly iron and copper, as sul-

¹⁶ *Minerals Yearbook*, 1939, 1940, p. 1340.

¹ Among others, The Imperial Chemical Industries, Ltd., of London and the French chemical concern, Kuhlmann, were members.

² U. S. Tariff Commission, *Sodium Sulphate*; Ballande, *Ententes*, pp. 88 ff.; *Minerals Yearbook for 1938*, p. 1287. Exports of sodium sulphate from Germany in 1938 were estimated at 226,426 metric tons at a value of 6,320,000 marks. See Bureau of Foreign and Domestic Commerce, *World Chemical Developments*, 1938, p. 44.

³ See *Czechoslovak Cartel Book*, p. 228; Ballande, *Ententes*, p. 88.

phides which contain from 40 per cent to 50 per cent sulfur. Crude or native sulfur accounts for about 40 per cent of the world's consumption, while pyrites supply nearly 50 per cent. The remaining 10 per cent originates from gases discharged in smelting copper and zinc, from coal and lignite gases, and from gases captured in petroleum refining, all of which contain variable amounts of sulfur dioxide. Pyrites and gases, as a rule, are used directly to manufacture sulphuric acid, although crude sulfur may be and sometimes is extracted from them. There were before World War II several interesting international patent pools relating to processes for recovering sulfur dioxide and sulfur from gases.¹

From the point of view of international cartellization, native sulfur was more significant than sulfur in combinations. Crude sulfur, or brimstone, was produced largely from ores located in the United States, Italy, and Japan. In the middle thirties, the United States produced about 80 per cent, Italy 11 per cent, and Japan 6 per cent of the world's crude sulfur. The United States and Italy were the principal exporters and as such dominated the world market.

Regulation of the sulfur export market dates back more than a hundred years. In 1838, the Sicilian Government granted a private company a monopoly on the production and sale of sulfur. Financial and industrial interests in Great Britain were so severely affected by this action that the British Government not only protested but in 1840 issued an ultimatum accompanied by the seizure of Sicilian ships and the dispatch of naval units to Sicilian waters to induce the Sicilian Government to revoke the monopoly and settle the claims of British

¹ The Bureau of Foreign and Domestic Commerce (*World Chemical Developments* 1938, pp. 4-5), reports the following: "In 1938, considerable quantities of sulfur were recovered from gases in certain European countries. The patents covering processes for the recovery of sulfur from sulfurous gases developed in metallurgical operations, such as the roasting and smelting of sulfide ores, and owned by British and Swedish groups on one side and German and Swiss interests on the other, have been pooled. In 1934 the British group had developed a process for the production of 100 per cent dioxide from weak sulfur dioxide gas, and a plant is in operation . . . near Manchester. Since 1936, a plant has been in commercial production in Finland. British interests also patented a process for the reduction of concentrated sulfur dioxide to sulfur. In 1936, the British and the Swedish companies pooled their patents and processes and formed a company known as Sulfur Patents, Ltd., to handle licensing operation. In the meantime, sulfur recovery processes had been developed by a Swiss and German firm, and were competing with the processes of the British-Swedish group. Agreement has now been reached for pooling the patents and processes of the two groups. The patents will be handled by *Lurgi Chemie*, of Frankfurt, which will be responsible also for the marketing of the sulfur dioxide and sulfur produced by the processes of the four companies."

citizens.² The Sicilian Government capitulated for the time being but nevertheless continued to exert influence on the sulfur industry through various devices.

In 1905, the Italian sulfur industry suffered a severe setback partly as a result of over-production and partly because of keen American competition. At that time, the Union Sulfur Company of New Jersey had begun to ship sulfur to Europe. The reaction of the Italian Government was to strengthen its monopolistic organization by setting up a compulsory cartel in the law of July 15, 1906, which was amended in 1910.³ Representatives of the new compulsory cartel soon entered into negotiations with American interests to secure an agreement for mutual regulation of the international market. An arrangement was worked out between Herman Höchel, the manager of the Union Sulfur Company G.m.b.H. in Hamburg, Germany (which was the selling agent for the New Jersey company) and Pietro Lauro, General Manager of the *Consorzio Obbligatorio per l'Industria Solifera Siciliana*, in Palermo (Italy). The respective agreements were signed at Rome on November 23, 1907, and February 29, 1908. They were hastily cancelled by Herman Frasch (President of both the Hamburg and New Jersey companies), January 20-21, 1913, when the state of New Jersey passed laws prohibiting any combination whatsoever.⁴

After the First World War, American exporters concluded a new international cartel agreement with the *Consorzio Obbligatorio per l'Industria Solifera Siciliana* on March 14, 1923. These American exporters were represented by the Sulfur Export Corporation, New York, organized in 1922 under the Webb-Pomerene Act.⁵ After the *Consorzio* was dissolved by a decree of the Italian Government in 1933, a new cartel agreement was concluded on August 1, 1934, with the new Italian agency, *Ufficio per la Vendita dello Zolfo Italiano*. Its quota and price provisions became inoperative at the beginning of the Second World War.⁶ There is little doubt that the agreement estab-

² See Staley, *Raw Materials*, pp. 172-73.

³ See Federal Trade Commission, *Report on Co-operation in American Export Trade*, Part 1 (Washington, 1916), pp. 135 ff.

⁴ The agreements and the relevant correspondence is contained in TNEC, *Hearings*, Part 5, pp. 2219-26.

⁵ Before the Second World War the sulfur export business in the United States was carried by the Freeport Sulfur Co., and the Texas Gulf Sulfur Co. in a 50-50 sharing of exports. They were stockholders in the Sulfur Export Corporation on a 50-50 basis.

⁶ The U. S. Department of Justice, in a *Public Statement*, released March 20, 1940, entitled "Investigation of the Sulfur Industry," published a letter of the Sulfur Export Corporation dated February 5, 1940, which contains the following statements concerning the international sulfur agreement: "(1) the quota provisions have been suspended in

lished complete control over export supplies and markets and utilized export quotas as well.

In connection with this international cartel, the Sulfur Export Corporation concluded on April 1, 1936, arrangements for an agreement with the *Orkla Grube A.B.* (Orkla) of Lokkenverk, Norway, valid until December 31, 1941. According to this accord, the Orkla was obliged to limit its sales as to territory, quantity, and to set prices according to standards set up by this agreement. Orkla agreed not to grant a license on the patents covered in its Orkla sulfur recovery process to any outsider. The mutual purchasing of other patents was also agreed upon.

Sulfur prices on international markets may be judged from the prices at the mine in the United States. Between 1923 and 1925 these prices per long ton fluctuated between \$15.50 and \$16.30. Between 1926 and 1938 prices remained (with very small deviations from 1926 to 1930) at the level of \$18.00. After 1938 until the outbreak of the Second World War the price level moved around \$16.00. However, the United States Department of Justice reports that "While published quotations showed a price of \$18.00 per ton for bright sulfur at the mines for several years prior to the fall of 1938, and \$16.00 per ton since, actual prices for various grades, as shown by sales invoices were substantially lower than the published prices during both periods."⁷ In the international sulfur agreements, found in Appendix VIII, the reader will find uniform prices that relate to the world market. Furthermore, the agreements indicate that sulfur was sold at cheaper prices when it was to be converted into sulphuric acid.

It is interesting to compare the rigidity of sulfur prices with the movement of prices for pyrites, which may be regarded as an element in intercommodity competition with sulfur. Pyrite prices remained at the level of 12 cents per unit (f.a.f. United States ports), between 1931 and 1938. Between 1923 and 1930 they fluctuated between 11.5 and 13 cents.⁸

Significant international agreements concerning sulfur are most characteristic of modern cartellization.

view of the unworkability resulting from upset international conditions, and (2) the war abroad and attendant shipping conditions make its price provisions ineffective as a practical matter. Foreign sales of sulfur are now at higher price levels than those contemplated by the agreement."

⁷ *Public Statement* on the "Investigation of the Sulfur Industry," released March 20, 1940, by the Department of Justice.

⁸ TNEC, *Hearings*, Part 5, p. 2203.

RAW MATERIALS NOT OTHERWISE CLASSIFIED

COAL

Abundant material concerning the attempts of private entrepreneur groups and governments to arrive at a comprehensive agreement aiming at collective marketing of coal on world markets is available. Negotiations lasting more than fifteen years were continually frustrated. Even the recommendations of the League of Nations in an Interim Report (1929)¹ proved unfruitful. The major obstacles to an agreement were overcome and general co-operation seemed near when the threat of war became a certainty.

Entrepreneur associations in Great Britain and Poland established on December 6, 1934, effective January 1, 1935, an Anglo-Polish export cartel covering coal exports exclusive of bunker coal. This agreement lasted up to the Second World War but it operated under great difficulties. On the one hand, German coal exports disturbed Anglo-Polish co-operation; on the other hand, the British did not like the keen competition from the Poles in bunker coal, though bunker coal was not subject to regulation.² The British-Polish agreement furthermore suffered from the fact that Poland insisted on increased quotas to fight German competition. When these were not granted, Poland exceeded her quota. After the three-year agreement, which applied primarily to the Scandinavian markets, was renewed at the end of 1937, the Polish producers demanded and received tonnage concessions. Price policies of the cartel also suffered from strong outside pressure. The cartel had arrangements with coal importer organizations concerning imports to France, Denmark, Norway, and Sweden.³ After the Munich Agreement, the Polish participants again asked for a larger quota because of their seizure of Czechoslovak collieries.⁴

In June, 1934, a Franco-British trade agreement was made in connection with the importing of coal into France. Combined with the agreement were provisions for the barter of pitwood and iron ore. The French were given the right to terminate the agreement if a British-German or a general coal cartel agreement should be arrived at.⁵

An effort to reach an international coal agreement was made at a meeting at The Hague at the end of July, 1938. German, British,

¹ Document. 1933. II B5. See also *Journal of the London Monetary and Economic Conference*, July 26, 1933, p. 247.

² *The Economist*, August 14, 1937, p. 336.

³ *Political and Economic Yearbook 1938*, Warsaw, p. 761.

⁴ *The Economist*, March 4, 1939, p. 464. ⁵ *Ibid.*, December 24, 1938, p. 674.

It would be interesting to investigate how far the development of synthetic rubber influenced the prices and policies of the international rubber cartel. Though one may assume that in practice no actual threat endangered the raw rubber market directly because, until the Second World War, no industrial plant existed which was capable of competing with natural rubber, there are reports that the very fact that synthetic rubber was in the process of development did have some influence on the price policy of the cartel. It has been stated that "the German interests hope to sell the process to the international cartel . . . that course would probably mean the process might be buried in the interest of maintaining a market for natural rubber. . . ."²³ According to information supplied to this writer by an official source, "the International Rubber Regulation Committee was never approached directly or indirectly by German interests in regard to the sale of their process for producing synthetic rubber. Indeed, no approach was ever made to the Committee from any quarter whatsoever in regard to the sale of synthetic processes."

Although the International Rubber Regulation agreement settled competition between estate owners and native growers, the tension between the two has not been eliminated.

Under the impact of a deteriorating political situation in the spring of 1939, the United States and British Governments attempted to pile up stocks of certain strategic commodities, especially rubber, tin, wheat, and cotton. A barter proposal was suggested. Negotiations were successful only concerning the exchange of cotton and rubber. By an agreement signed in London, June 23, 1939, the two governments agreed to exchange 600,000 bales of cotton for an equivalent quantity of rubber, estimated to be about 85,000 tons.²⁴ This agreement expressed the willingness of the British Government to influence the International Rubber Committee to make liberal supplies possible to the United States. Additional agreements were made between IRRC and the Rubber Reserve Company of the United States on June 20, 1940; August 15, 1940; March 7, 1941; and December 13, 1941. All have been published and discussed by the IRRC. The stories of these developments are most revealing, but they do not come within the scope of this study.²⁵

The regulation scheme of 1934 was amended through international

²³ Bone Committee, *Patent Hearings*, Part 6, p. 2914.

²⁴ This agreement is reprinted in ILO, *Intergovernmental Commodity Control Agreements*, pp. 178 ff.

²⁵ *History of Rubber Regulation*, pp. 115-44.

pacts by the governments on June 27, 1935; May 22, 1936; and February 5, 1937. This last agreement expired December 31, 1938, and was renewed October 6, 1938, effective from January 1, 1939, until the end of 1943. This agreement was extended until the end of April, 1944, by the governments of England, India, and the Netherlands, when it finally expired. According to newspaper releases, there is no intention of renewing the agreement in its previous form; that is, of regulation of plantings, production, and export. Official reports indicate that the intention is only to establish co-operation among producers of natural and synthetic rubber and to consult the largest consumers.²⁶ Exploratory discussions were held in the summer of 1944 between British and American representatives acting under the auspices of the two governments with a view to keeping the crude and synthetic rubber situation under control and eventually considering post-war problems.²⁷

TABLE 21
ANNUAL ALL-IN COSTS OF LARGE ESTATES IN PENCE PER POUND

	1935	1936	1937
Malaya.....	6.03	6.13	6.15
Netherlands Indies.....	6.66	6.20	5.24
Indo-China.....	5.79	5.51	5.49
Ceylon.....	....	....	6.66

Source: *War Production Board, Special Report on Rubber, Appendix A, p. 18.*

TABLE 22
REPORTED AVERAGE CAPITAL COSTS PER ACRE IN 1935 IN LIVRE STERLINGS

	Buildings and Machinery	Estate	Total	Additional Costs for bud-grafting
Malaya	6.94	34.98	41.92	5.60
Ceylon.....	10.60	39.74	50.34	3.39
India.	9.04	42.81	51.85	4.55
Borneo.....	4.77	24.27	29.04	4.59

Source: *History of Rubber Regulation, pp. 188-92.*

²⁶ The interested governments agreed in December, 1943, to reshape the agreement so as to include "all other countries with substantial interests in rubber or rubber substitutes, whether producers or consumers." The statement proceeds, "the three governments hope that the new committee, if formed, will point the way to international action which will secure the long-term interests of rubber producers and consumers alike in conformity with such principles for an international commodity scheme as may be generally accepted after the war."—*The New York Times*, December 29, 1943, p. 23.

²⁷ *The New York Times*, July 19, 1944.

TABLE 23
NETHERLANDS INDIAN ESTATES' ALL-IN COSTS, 4TH QUARTER, 1938
(pence per lb.)

Percent of Total Production	Before Depreciation	Depreciation	Amortization	Export Tax	All-in Costs
1.28	1.91	0.44	0.94	0.81	4.10
0.73	2.58	0.37	0.79	0.81	4.55
2.76	3.06	0.57	1.21	0.81	5.63
17.33	3.17	0.44	0.95	0.81	5.37
5.02	3.42	0.44	0.95	0.81	5.62
8.87	3.86	0.61	1.30	0.81	6.58
10.13	3.84	0.37	0.79	0.81	5.81
13.48	4.23	0.49	1.05	0.81	6.58
12.24	4.68	0.67	1.44	0.81	7.60
6.40	4.84	0.59	1.26	0.81	7.50
9.75	4.95	0.46	0.98	0.81	7.20
1.18	5.53	0.76	1.62	0.81	8.72
5.39	5.57	0.57	1.22	0.81	8.18
0.85	6.16	0.87	1.85	0.81	9.69
0.63	6.24	0.72	1.54	0.81	9.31
0.96	6.61	0.82	1.76	0.81	10.00
0.76	6.70	0.69	1.46	0.81	9.66
0.95	6.94	0.67	1.43	0.81	9.85
0.21	7.35	0.81	1.74	0.81	10.71
0.40	7.79	0.99	2.11	0.81	11.70
0.50	7.62	0.61	1.30	0.81	10.34
0.18	8.18	0.88	1.87	0.81	11.74
100	4.25	0.53	1.13	0.81	6.72

Source: War Production Board, *Special Report on Rubber*, August 31, 1944, p. 21.

TIMBER

In the early thirties, governments and entrepreneurs of European timber-producing countries became greatly disturbed over the slack demand and low prices in the timber trade. A special subcommittee of the Economic and Monetary Conference in London reconvened in October, 1933, to seek a solution for this serious situation.¹

The League discussion was preceded by the establishment of an International Timber Committee (*Comité International du Bois*, generally referred to as CIB), established in September, 1932, with headquarters in Vienna. CIB was an unusual international trade association in that both governments and national trade associations participated. It was initiated by Central European countries. It expanded to include practically all important timber exporters and interested countries except Germany. The United States and Canada also joined the asso-

¹ See *Journal of the London Monetary and Economic Conference*, July 28, 1933, p. 247; also, League of Nations, *Report of the Economic Committee to the Council, Document II*, 1933, II B 5, p. 7.

ciation.² The member countries of the CIB were Austria, Poland, Rumanian, Yugoslavia, Czechoslovakia, Sweden, Norway, Finland, U.S.S.R., France, Canada, United States, and Latvia. CIB did not operate as a cartel but served as a co-ordinating agency for the collection and dissemination of trade information and research. It promoted agreements between exporters, producers, and consumers for regulating the timber market.

On November 15, 1935, in Copenhagen, under the auspices of the CIB, Sweden, U.S.S.R., Finland, Latvia, Poland, Austria, Czechoslovakia, Yugoslavia, and Rumania concluded a cartel agreement on exports of sawed and planed soft timber which represented about three-fourths of the total value of European lumber exports. The new cartel was named the European Timber Exporters' Convention (ETEC) and had headquarters in Stockholm. It operated principally on the European market. According to Egon Glesinger, the political driving force of the new cartel was Soviet Russia. The U.S.S.R. tried through the cartel agreement to prevent the Nazis from establishing control over the European timber market. The same author gives a dramatic account of the Soviet attempt to establish a pulpwood cartel and the action of Finland in blocking it.³ The latest export quotas are given in Table 24.

The ETEC did not provide a mechanism for fixing prices. Timber prices, however, gradually rose, though it is difficult to say how far this price movement was influenced by the cartel.⁴

TABLE 24
EXPORT QUOTAS IN THE ETEC OF SOFT SAWED AND PLANED WOOD IN 000 STANDARDS (ONE STANDARD EQUAL 164.93 CU. FT., 4.670 CU. METERS OF LUMBER)

	1937	February 1938	September 1938	1939
Sweden	820	739	691	656
Finland	1005	904	845	804
Russia	950	901	842	760
Poland	313	276	258	250
Latvia	128	110	103	102
Czechoslovakia	96	82	77	0
Austria	75	235	0	0
Yugoslavia	168	144	134	134
Rumania	246	229	214	197
Total	4000	3620	3164	2903

Source: *The Economist*, June 3, 1939, p. 564.

² Egon Glesinger, *Nazis in the Woodpile* (Indianapolis, 1942), p. 61.

³ *Op. cit.*, pp. 109 ff.

⁴ According to a report registered in *Kartell-Rundschau*, 1939, p. 55, in 1938 there

Apparently, the only notable international cartel which existed in the hardwoods industry was the International Cartel for the Export of Beech Wood. Representatives of Czechoslovakia, Yugoslavia, Poland, and Rumania, and a representative of the British Hardwood Agency held a conference in December, 1937, to discuss the situation in regard to the export of beech wood, particularly to the market of the United Kingdom. An agreement was arrived at which provided a system of flexible export quotas for 1938. In addition, collaboration with regard to prices was agreed upon.⁵

TOBACCO, ORIENTAL

Conditions on the oriental tobacco market deteriorated rapidly during the great depression of the thirties. During this period tobacco represented 35 to 40 per cent of the exports of Bulgaria and 55 to 60 per cent of all exports of Greece. The League of Nations discussed this problem at length in its Commission of Inquiry for European Union.¹ Entrepreneurs in Greece, Bulgaria, and Turkey approached their government to find a solution for the difficulties arising from this depressed situation on the oriental tobacco market, and several intergovernmental conferences were held. The most important of them took place in Constantinople September 11, 1933, and in Geneva March 21, 1935. At these conferences, it was decided to recommend to the three governments the establishment of an Oriental Tobacco Central Bureau with headquarters at Athens. This bureau was to be in the form of a public corporation, governed by a board of nine, each government to appoint three representatives. The aim of the Bureau was to improve conditions of production and marketing and to carry on propaganda in favor of oriental tobacco. It was to have power to organize a pool for surplus stock in an effort to regulate prices.² Although the Bureau was approved by the governments concerned, its organization was never completed. Private sources have hinted that the high quota demands of Bulgaria prevented operation of the plan.

was tension in the ETEC because of its inability to influence prices strongly enough and because the countries of Western Europe refused to buy timber from ETEC. In 1938, Yugoslavia was so dissatisfied that she threatened to leave the cartel unless she was assured a fixed volume of sales on the English market.

⁵ League of Nations, *Circular*, E. 1039, July 1, 1938.

¹ League of Nations, *Report of the Stresa Conference for the Economic Restoration of Central and Eastern Europe*, 1932, p. 21.

² See F. Arcoleo, "International Organization of the Market of Oriental Tobaccos," *International Review of Agriculture*, 1938, p. 123 E; and U. S. Department of Commerce, *Tobacco Markets and Conditions Abroad*, No. 446, Jan. 23, 1944.

CHEMICAL AND PHARMACEUTICAL MATERIALS
AND PROCESSES

GENERAL CHEMICAL AGREEMENTS

In attempting to describe international commodity controls in the chemical industry one is confronted with an unusual situation. Although as in other industries many agreements were made that established collective marketing controls for specific commodities or for classes of products, these specific accords were frequently parts of an agreement encompassing a large number of chemical materials and processes. It is significant that, in the chemical field, from the aspect of marketing controls, processes were often of greater importance than products. In addition, processes and products were often connected so that agreements relating to one article were bound to influence the manufacture and marketing of others.

Marketing policies, the frameworks within which they operated, and problems of co-operation and rivalry were decidedly influenced by the factor of rapid technological advance. This was true of other industries as well but was not of such significance as in the chemical industries. In no other branch of industry was the objection against international marketing controls so often raised that technological progress was expropriated by closed groups who sometimes worked to block progress of others outside the group. It was charged that patents and technological know-how were used to establish ties that could become the foundation for close-knit monopolistic organizations. In this connection, the tradition that patents bestowed on the holder the right to issue licenses with restrictive clauses as to quantity, quality, modes and destination of sales was challenged. It was also charged that technological discoveries and monopolistic connections were used to benefit the German war industries.

An unbiased discussion of these problems is extremely difficult because human imagination is arbitrary in conceiving economic situations which might have prevailed had such marketing controls not existed. For example, it is not possible to tell to what extent certain inventions would have been developed without exchange of technological information and without these business arrangements. In all important industrial countries the chemical field is dominated by one or by a few outstanding companies. Intercorporate connections among these companies of different nationality were common. In addition to these connections numerous subsidiaries were established in various countries.

It would be a mistake to assume that co-operation among chemical companies extinguished international industrial rivalry. There are many indications of co-operation along with competition between the big chemical concerns.¹

It is not possible here to make a detailed study of all the general agreements and their pertinent problems and implications in the chemical industries. It is possible only to point out a few interesting facts about two or three schemes of general co-operation in the chemical field.² General co-operation between Du Pont and ICI was based on old business relationships between the two which had been harmonious for a number of years. A comprehensive agreement between Du Pont and ICI was formulated in 1929. Ten years later, in 1939, a new agreement similar to the old one but with some revisions and additions was consummated.³ The latter agreement provided for exchange of information and patents on all inventions "now and hereafter during the Agreement period" owned or controlled by either party. Each party agreed to supply experienced personnel to the other and to assist it in investigating or testing any invention disclosed by the other. In the event that one of them discovered a process of world-shaking proportions, there was to be full discussion of the whole invention and its implications for the operation of the agreement. ICI was to grant exclusive licenses to Du Pont upon request for the territory including the countries of North America and Central America (outside of Canada, Newfoundland, and the British possessions) and all possessions of the United States save for a few agreed-upon exceptions. Du Pont likewise was to grant licenses to ICI for the territory comprised by the British Empire (exclusive of Canada and Newfoundland), Eire, and Egypt, also with certain exceptions. The licensor reserved for himself, however, the right to sell directly in licensed countries. An exception to the exchange of information was provided in case one party had already agreed to disclose information on certain products or processes to a third party.

The following processes, products, or classes of products describe broadly the potential scope of the agreement as to exchange of in-

¹ Although general co-operation between German, English, and American chemical industries existed, Carl Duisberg, the president of I. G. Farben, described with unusual hostility the action of British and American chemical interests in trying to capture former German markets. See Duisberg, *Meine Lebenserinnerungen*, p. 130.

² A few of these general chemical agreements may be found in Appendix VIII, F, G, H, and I.

³ See Bone Committee, *Patent Hearings*, Part 5, pp. 2304 ff. This discussion is based on the 1939 agreement.

formation and exclusive licenses. This does not imply that the mention of a product actually brought it under this control system. Inventions with reference to the following products were covered by the agreement: (A) explosives for industrial purposes, (B) cellulose and its derivatives, (C) coated textile products, (D) coated reticular bases suitable as glass substitutes, (E) paints, varnishes, lacquers, and other finishes, (F) pigments, (G) acids, salts, and other inorganic chemicals, (H) certain chlorine derivatives, (I) fertilizers, (J) alkali metals, (K) synthetic ammonia, (L) insecticides, fungicides, and disinfectants, (M) alcohols manufactured by synthetic or fermentation processes, (N) synthetic resins and plastics, (O) general chemicals of the synthetic organic chemical group including pharmaceuticals, dye-stuffs, rubber chemicals, motor fuels, photographic chemicals, (P) anti-knock compounds, (Q) perfumes, (R) camphor, (S) oil flotation agents, (T) new synthetic products not classified strictly as chemicals. Several exceptions to these groups were provided for because one party wished to have free rein in a particular field or because one or both parties had agreements with other groups. This agreement was a subject of anti-trust proceedings which have been suspended until the termination of the European war.

There is no doubt that many special agreements existed between Du Pont and IG or their subsidiaries. Among others, these special agreements related to cellophane, industrial explosives, celluloid, titanium, seed disinfectants, and fungicides, dyes, etc. In addition, "the IG and du Pont have an informal agreement to disclose technological information with the idea of exchanging patents if that seemed feasible." This general agreement, however, was subject to the important exception that such exchange of information was to take place only if neither party already had made prior commitments concerning any product or process to a third party. Even in such a case, they sometimes informed each other of their relations with third parties on certain developments.⁴

The Standard Oil Company of New Jersey and *I. G. Farbenindustrie* had general accords of co-operation consisting of a so-called four-party agreement, a division of fields of agreement, and a co-ordination agreement, drawn up in 1929. These agreements were preceded by a less definite agreement in 1927. By these arrangements, the two parties agreed that Jersey was to predominate in the oil field outside Germany and that IG was to have a preferred position

⁴ Bone Committee, *Patent Hearings*, Part 3, p. 1457, and Part 5, pp. 2264 ff.

in the chemical field outside the United States, as far as these two groups were concerned. It was understood that the borderline between the oil and chemical fields was not distinct and that where the two overlapped both parties would co-operate in exploiting new developments. Co-operative action materialized in the so-called Joint American Study Company (Jasco), a company jointly owned and operated by Jersey and IG. Within the framework of these agreements, several international commodity controls developed which were thoroughly investigated by the United States Congress. All these agreements caused far-reaching political repercussions later on. However, neither the governments nor the private firms in America, Great Britain, Holland, and Scandinavia realized in time that the German Government was abusing these business connections for political purposes. Central European firms apprehended these facts sooner, but in the twilight years before the war were unable to make their voices heard.

ACETIC ACID

Acetic acid is one of the most valuable and important of the heavy chemicals. Up to the First World War this acid was recovered mainly by means of the distillation of hardwood. The production of natural acetic acid after the war was largely supplanted by processes for producing acetic acid synthetically from acetylene or some other hydrocarbon. Acetylene is often made from calcium carbide, but it may also be procured from petroleum, from natural gas, or from petroleum gases.

The largest single outlet for acetic acid is cellulose acetate, which is used in the manufacture of rayon, plastics, fireproof photographic film, etc. It is also widely used in solvents for lacquers, paints, varnishes, etc. Ordinary household vinegar is a dilute form of acetic acid.

The International Acetic Acid Cartel was based on many agreements relating to products derived from wood distillation and also from synthetic processes. It was composed of three groups of agreements—one relating to Central Europe, another to France and Germany, and a third to Germany and the United Kingdom, Switzerland, Italy, and other countries. All agreements were probably established in 1924. The German I. G. Farben exercised a dominating influence not only because of its membership in the cartel (including its subsidiaries) but also because of the patents it developed.

The members of the Central European group were Czechoslovakia, Germany, Yugoslavia, Austria, Hungary, and Rumania. Due to the expansion of the synthetic industry, this cartel group disintegrated in

1932, but a remnant reconstructed the cartel on a smaller scale. It continued to function up to the Second World War.

The German-French Agreement, effective as of October 17, 1924, regulated the market by means of export quotas and prices.¹ Members of acetic acid groups had connections with some of the makers of calcium carbide and acetylene gas in order to limit the amount of calcium carbide available as a raw material for acetic acid.² The acetic acid cartel allocated export markets, the American market being reserved to a Canadian firm. The latest cartel agreement was established in 1932 to the end of 1936, with tacit prolongation for two years.³ The cartel was presumably still in force at the outbreak of the war.

In 1930, a pilot plant was set up by Jasco, the jointly owned subsidiary of Standard Oil of New Jersey and I. G. Farben of Germany, at Baton Rouge, to produce acetylene and acetic acid from natural and refinery gases in connection with the development of butadiene, a raw material for synthetic rubber.⁴ According to the President of Standard Oil, the plant was closed May, 1935, because it was not successful.⁵ The Antitrust Division reported, however, that the plant was shut down because the production of acetic acid in large quantities would upset the acetic acid market in the United States. Earlier in 1934 an arrangement was made whereby the acid was distributed through the largest American producer of acetic acid, Niacet, an affiliate of Union Carbon and Carbide Corporation.⁶

An interesting example of the way chemical products are inter-related was given in the complaint charging that at the Jasco plant the production of certain by-products such as monochlor acetic acid for indigo dyes was blocked by existing restrictive agreements. IG stated that the "manufacture of monochlor acetic acid might bring new outsiders into the indigo field and might, therefore, affect our agreements in the dyestuff field in America."⁷

ACTIVE COAL

Activated carbon is produced from coal and special woods, and is very often sold under trade names. Activation is secured by heating

¹ Ballande, *Ententes*, p. 81.

² *Ibid.*, pp. 2335, 2347.

³ *Ibid.*, p. 1410.

⁴ *Ibid.*, p. 1439. Niacet was one-third owned by Shawinigan Chemicals, the large Canadian producer of acetic acid. Du Pont, a large consumer of acetic acid in the production of rayon and other products, also had an interest in Niacet.

⁵ Bone Committee, *Patent Hearings*, Part 3, p. 1423.

⁶ Bone Committee, *Patent Hearings*, Part 5, p. 2335.

⁷ *Ibid.*, Part 3, pp. 1363, 1700, and *passim*.

the carbon in steam to break down the larger granules. The activated coal is used to absorb gases, to decolorize fats and other materials, and for certain other purposes.

The market of activated carbon was collectively controlled by patents and other methods under the leadership of a German firm, Carbo-Union, which linked together the interests of the *I. G. Farbenindustrie*, of the *Metallurgische Gesellschaft*, both in Frankfurt am Main, of a Czechoslovak chemical concern, and of the Urbain Corporation in Paris and New York. Special agreements existed with several American firms.¹

This marketing control did not cover active coal used in the extraction of sulfur, or for catalytic or medicinal purposes. It may be that these were regulated by separate agreements.

ALKALIES

The alkali industry represents a very large and important branch of the heavy chemical industry. Three distinct processes have been adopted for large-scale conversion of salt into either mild or caustic alkali. These three rival methods are usually designated as the Leblanc, the ammonia-soda or Solvay, and the electrolytic processes. The first, and oldest, of these has been largely replaced by the other two. The alkalies of chief commercial importance are soda ash (sodium carbonate), caustic soda, and bicarbonate of soda.

Soda ash is produced in greater volume than the others. Its significance may be gauged by the fact that, prior to the Second World War, the world production amounted to approximately 4,000,000 tons, one-fourth of which was consumed by the glass industry. It is also extensively used in the manufacture of chemicals, textiles, paper, and for metallurgical purposes. Caustic soda or sodium hydroxide is used as an inorganic reagent in the soap, textile, paper, and rayon industries. It is also employed in petroleum refining. Sodium bicarbonate (or baking soda) is mainly used for industrial, chemical, household, and drug purposes.

The starting material for the processes mentioned above is salt or salt brine. It is not surprising, therefore, to find that manufacturers of salt either operate or have close connections with plants producing soda ash, caustic soda, etc. In the electrolytic process, caustic soda and chlorine are linked together as twin products so that the production and marketing of one must be balanced by the other. There are

¹ These firms are listed in Bone Committee, *Patent Hearings*, Part 5, pp. 2333 and 2343.

indications to show that chlorine compounds, including liquid chlorine, bleaching powder, hypochlorites, and hydrochloric acid were also subject to an international marketing agreement—at least in so far as patents and the exchange of technical information were concerned. The marketing of chlorine was influenced by patent agreements relating to its co-product, caustic soda. Since soda ash is so important to the glass industry, there were many intercorporate connections all over the world between the glass companies and the alkali industry.¹

Under the Webb-Pomerene Law permitting combinations for export, the United States Alkali Export Association, Inc. (referred to hereafter as "Alkasso") was formed in 1919 to promote exports in alkalies. The membership of the organization has increased and changed, but one may safely say that the leading exporters of alkalies in the United States are members of this or its companion Webb Association, California Alkali Export Association ("Calkex"), organized in 1936. In 1930, Allied Chemical & Dye, which was allocated 40 per cent of the alkali exports in Alkasso, decided to leave the association and capture a larger share of the market through price cutting. This price war lasted for three months but resulted in victory for none, so Allied resumed its 40 per cent share of exports in Alkasso.² However, it again severed its connection with Alkasso in 1941.

Since the two American export associations controlled about 95 per cent of the United States exports, and since American exports comprise a predominant share of the total world exports in alkalies, it seems likely that the international alkali cartel³ was centered in the activities of its American participants.

It appears that in February, 1924, the United States Alkali Association and Messrs. Brunner Mond & Co., Ltd. (one of the companies that became part of Imperial Chemical Industries [ICI] in 1926) arrived at an agreement concerning allocation of quotas for Mexico and South America in regard to caustic soda and soda ash. Alkasso's quota was to cover not only its own but all alkali exports from the United States from whatever source.

Prices were also agreed upon for certain markets and selling agents employed. In 1929, this agreement was amplified and extended as

¹ For instance, the Solvay Process Company, a wholly owned subsidiary of Allied Chemical & Dye Company, owns stock in Owens-Illinois, a large glass company, and is its biggest customer.

² *Fortune*, October, 1939, p. 49.
pp. 39, 57, 77; TNEC, *Monograph No. 6*, pp. 169, 224; Military Affairs Committee, *Monograph No. 1*, pp. 47 f.; see also TNEC, *Monograph No. 10*, pp. 18, 19.

³ Bureau of Foreign and Domestic Commerce, *World Chemical Developments*, 1938,

of January 1, 1930, to 1932 and applied to co-operation on all the markets of the world. In May, 1933, as of January 1, 1933, this agreement was again renewed.⁴

In July, 1936, an agreement was signed by ICI, Belgian Solvay, the largest producer in Continental Europe, and Alkasso to run until June 30, 1941. Exclusive territories including home markets were awarded to each participant, and a few countries were designated as joint markets.⁵ Upon the formation of the California Alkali Export Association arrangements were made to give this group a share of the markets in certain South American countries and the Far East. In India, Calkex was given a sales quota but only on the promise of delivering directly to ICI in India. On other markets, they were to use the agents of Alkasso.⁶

Marketing arrangements were made as to the sale of alkalis on the continent of Europe by Belgian Solvay, ICI, and IG Farben, the largest producer of alkalis in Germany. In 1936, Alkasso also entered into these agreements for the express purpose of preventing a dispute between American and German members over the Scandinavian market. Like similar arrangements this market control was implemented by auxiliary understandings. According to unverified reports, Alkasso and ICI paid the Soviet agency in charge of alkali exports a yearly compensation for not exporting its quota. This quota was then divided between Alkasso and ICI. According to private sources the Soviet quota amounted to 45,000 tons.

A regional cartel group connected with Belgian-Solvay was organized for the markets of Eastern Europe. This cartel united manufacturers and exporters of alkalis in Czechoslovakia, Austria, Rumania, and Yugoslavia. The agreement went into effect on October 29, 1933, for an indefinite period.⁷

In 1944, the Antitrust Division brought a complaint against the American exporters and ICI. It emphasized that this was the first

⁴ The agreements herein mentioned may be found in the exhibits attached to the complaint of *United States vs. United States Alkali Export Association Inc., California Alkali Export Association, Imperial Chemical Industries, Ltd., Imperial Chemical Industries (New York) Ltd., Pittsburgh Plate Glass Co., Church & Dwight Company, Inc., Diamond Alkali Company, Inc., Dow Chemical Co., Inc., Hooker Electrochemical Company, Inc., the Mathieson Alkali Works, Inc., Niagara Alkali Company, Pennsylvania Salt Mfg. Co., Southern Alkali Corporation, Westvaco Chlorine Products Corporation, Inc., Wyandotte Chemicals Corporation, West End Chemical Company, Inc., and Pacific Alkali Company, Inc.*

⁵ Dept. of Justice, *Press Release*, March 16, 1944, p. 6.

⁶ Dept. of Justice, *Press Release of March 16, 1944, on Alkali Export Association Inc. et al.* Complaint and Exhibits filed March 16, 1944.

⁷ *Czechoslovak Cartel Book*, 1938, p. 224.

time that any Webb-Pomerene export association had been brought into court on charges of violating the Antitrust Act.⁸

BONES AND BONE GLUE

Bone glue is manufactured from the collagen in bones. It is more generally used as an adhesive but is employed in the dyeing and finishing processes of fabrics as well. The European bone-glue industries combined in a cartel to purchase bones and sell glue.

Governments of several countries prohibited or restricted the export of bones after the First World War. This situation led to many representations by governments and industries. Finally, under the auspices of the League of Nations several European countries met in a series of international conferences to discuss the international trade in bones. In 1929, eighteen European countries arrived at an agreement, effective in October of that year, which removed some of the prohibitions and mitigated the effects of other restrictions on exports of bones.

The European exporters of bone glue in Germany, Austria, England, France, Belgium, Hungary, Poland, Rumania, Switzerland, Sweden, Denmark, Lithuania, Latvia, Yugoslavia, Italy, Finland, and Czechoslovakia established an international cartel on October 1, 1926, to settle upon terms for purchasing bones and to fix export quotas and minimum prices for the export of bone glue. Research agencies and an arbitration system were also provided for. With headquarters in Glarus, Switzerland, a joint-stock company called *Société Anonyme Suisse (Epidos)* was founded to administer the agreement.¹

BORAX AND BORIC ACID

Boron is a nonmetallic element occurring chiefly in borax and boric acid. Boric acid and borates are indispensable to the ceramics industry and are frequently employed in the manufacture of heat-resistant glass. They also have a number of other industrial uses. Borate materials may be used as fertilizers.

There is little doubt that borax and boric acid were subject to closely-knit control on the world market. According to Alfred Plummer, the International Borax Cartel was primarily concerned with the joint purchasing of raw materials necessary to the production of boron

⁸ American Potash & Chemical Corporation, Solvay Process (this company left Alkasso in 1941), Belgian Solvay, and I. G. Farben were named as co-conspirators.

¹ Ballande, *Ententes*, p. 71; *Czechoslovak Cartel Book*, p. 271; Plummer, *International Combines*, pp. 73 f.; Benni et al., *Industrial Agreements*, p. 46.

commodities.¹ The purchasing agent of the cartel was Borax Consolidated, Ltd., of London. About 90 per cent of the world production of crude borates was purchased from the company's own subsidiary in the United States, Pacific Coast Borax Company.² Furthermore, about 90 per cent of the world production of borax was derived from lake brines (chiefly in California) purchased from the American Potash and Chemical Corporation.³ It may be assumed that the International Borax Cartel or the leading company of the Cartel, Borax Consolidated, Ltd., also exercised great influence on the refinement and sale of borates. This company was probably a shareholder in several refining companies. Borax Consolidated was accused of hindering the war effort of the United Nations by restricting the production of dehydrated borax in an action brought by the Antitrust Division of the Department of Justice.⁴ These charges were denied in the newspapers by the British company. Borax Consolidated and American Potash and Chemical Company were said to control the production and marketing of almost all the borax in the world.⁵ It is a debatable question whether the borax cartel should properly be classed a collective marketing control or a monopoly of the corporate type.

CALCIUM CARBIDE

Calcium carbide is manufactured by heating lime and carbon together in an electric furnace. This compound was formerly used in the production of acetylene as an illuminant, but this market is rapidly disappearing. Calcium carbide is also employed in welding, as an intermediate in the production of other chemicals, and combined with nitrogen, it is the main raw material for calcium cyanamide. Great Britain was the only large industrial nation without a big calcium carbide factory. In 1939 it imported over 1,300,000 short tons of calcium carbide, but now has started one or two fairly small plants of its own.

The first international syndicate for calcium carbide was formed

¹ Plummer, *International Combines*, p. 74. See also Ballande, *Ententes*, pp. 60-63.

² TNEC, *Monograph* 21, pp. 110, 111; TNEC, *Monograph* 10, pp. 59 ff.; *The Economist*, March 2, 1940, p. 398.

³ Ninety per cent of the shares in the American Potash and Chemical Corporation, originally British-owned, was—according to an indictment by the Grand Jury in San Francisco—transferred in 1929 through a "secret sale" to unknown German interests. The sale was transacted through the British Syndicate known as Consolidated Goldfields of South Africa and the Dutch firm, Hope & Company. Cf. *The New York Times*, Sept. 15, 1944, pp. 1 and 12.

⁴ *The New York Times*, Sept. 15, 1944, p. 12.

⁵ *Ibid.*, p. 1.

in November, 1900, with a common sales office in Nuremberg. This cartel was enlarged and reshaped in 1910 and Geneva became its headquarters. According to Plummer, this agreement, comprising forty European companies, was set up after twelve years of severe competition haunted by over-production.¹ Special agreements relating to supplies for the English market were drawn up. The cartel had two branch organizations in Nuremberg and in London. Members of that agreement were Germany, Austria, France, Italy, Sweden, Switzerland, and Norway. The cartel ceased to operate at the beginning of 1914.²

On February 29, 1924, an international cartel of calcium carbide exporters was again founded with headquarters at Geneva. Export quotas were established. To administer the cartel provisions, a Swiss co-operative called "Agecar" was established by the cartel, the shares of which were allocated according to the quotas of the members. The central sales office for this 1924 agreement was established at Rotterdam. In the beginning Austria, Sweden, Norway, Yugoslavia, Switzerland and Rumania were members, but later Germany, Belgium, Italy, and Poland joined the group.³ Special conventions were held with France, Finland, Hungary, Czechoslovakia, and Canada,⁴ and an arbitration tribunal operated under Swiss laws. Home territories were protected. Sales were made through the central office in Rotterdam which distributed orders among the members. The cartel had connections with two committees of an international research bureau, one on acetylene welding, and the other on general technological problems of calcium carbide.

A reliable authority declared that the cartel expired in October, 1937, as a result of dumping calcium carbide on the market by the Japanese, who were outsiders. Russia was also an active outsider.⁵ However, before the close of the year, it appeared that the cartel had been extended into 1938.⁶

CAMPBOR

Natural camphor is produced by distillation of the wood of the camphor laurel tree. It is native to Formosa, Japan, and China. The Japan Camphor Company, Ltd., of Kobe, which is a state monopoly, has been the sole Japanese producer, refiner, and exporter of natural camphor since 1918.¹ The Japanese industry was profoundly affected,

¹ *International Combines*, p. 71.

² *Kartell-Rundschau*, 1936, p. 398.

³ *Kartell-Rundschau*, 1937, p. 574.

⁴ Ballande, *Ententes*, p. 64.

⁵ Ballande, *Ententes*, pp. 65, 66.

⁶ *Ibid.*, p. 661.

¹ Staley, *Raw Materials*, pp. 257 ff.

however, by the development of artificial camphor after the First World War. As a result, the Japanese Government reduced prices several times, but these reductions were not sufficient to halt the growth of the synthetic product.

There are indications that collective marketing agreements concerning the production and sale of synthetic camphor have existed, but the references are so indefinite that it is not clear how much these agreements applied to production and exports.² No co-operation existed between exporters of natural and synthetic camphor.

It is noteworthy that synthetic camphor not only competed with genuine camphor but also with some synthetic resins. Turpentine was often used as raw material for synthetic camphor.

CELLOPHANE

In 1908 Jacques Edwin Bradenberger, a talented Swiss chemist, developed a cellulose film and called it "cellophane"—a combination of the words "cellulose" and "*phaneros*" (Greek word for clear). After designing machines for making the film, he secured the backing of the *Comptoir de Textiles Artificiels* of France. Du Pont in 1923 made an agreement with the comptoir by which Du Pont would have exclusive rights to produce cellophane in this country.¹

On May 27, 1929, Du Pont and Kalle & Company (a company almost entirely owned by *I. G. Farbenindustrie*) arrived at an agreement providing for exchange of technological experience, inventions, and improvements, whether patented or not, which pertained to cellophane. This agreement was to be effective until December 31, 1949.²

CITRIC ACID

Citric acid is used as a flavoring extract in medicines, chemistry, electro-plating, and the printing of textiles. It is present in the juice of lemons, limes, and other fruits, and may be produced by fermentation from sugar-beet molasses.

The European Citric Acid Cartel was established in January, 1935, effective until the end of 1939. It was a production and export cartel, embracing both domestic and export production. Firms in Belgium, England, France, Italy, and Czechoslovakia were members.¹

² Bone Committee, *Patent Hearings*, Part 5, p. 2334. Camphor was one of the articles regulated under the 1939 agreement between Du Pont and ICI.—*Ibid.*, p. 2308.

¹ William S. Dutton, *Du Pont* (New York, 1942), pp. 309 ff.

² Bone Committee, *Patent Hearings*, Part 5, pp. 2264 and 2339.

¹ Bureau of Foreign and Domestic Commerce, *Synthetic Organic Chemicals*, p. 53; *Czechoslovak Cartel Book*, p. 229.

COCAINE

Coca leaves contain several alkaloids, the most important of which is cocaine. The largest amount of cocaine is found in Java coca. Cocaine is an important local anesthetic. Since it is also a habit-forming drug, national governments and international agencies have been greatly concerned with supervision of the cocaine production and trade.¹ The alkaloids of the coca leaves are usually extracted in the country of origin and exported under the name of crude cocaine. Commercial cocaine is prepared by a rather complicated procedure in which crude cocaine is used as a raw material. However, purely synthetic cocaine products have been developed in the last few decades.

The International Cocaine Convention, with headquarters in Darmstadt (Germany), was established in 1930. Its members were producers of refined cocaine in Germany, France, England, Switzerland, and Holland. Dissident Dutch, Belgian, and Czechoslovak producers also operated on the market. The cartel established, in addition to import quotas of crude cocaine, production quotas and export quotas of finished products.² In 1932, the International Cocaine Convention was renewed, and Czechoslovak producers joined the agreement at that time. Its duration was to be indefinite, but it could be renounced on six months' notice.³

DYES (COAL TAR)

Marketing controls in the coal-tar industry are exceedingly complex. One very complicating factor is that the few basic coal tar and organic compounds are used to make a larger number of "intermediates" which become primary raw materials for dyes, medicines, and explosives. The development of the synthetic dye industry was the starting point for the tremendous growth of the modern chemical industry. The marketing controls in the dye industry today exercise a dominant influence which pervades the whole chemical field. Dye-stuffs are used principally to color textiles, paints, paper, leather, and other miscellaneous substances.

The tremendous capital outlay and the technological knowledge and experience necessary to manufacture dyestuffs have resulted in the concentration of the world's dyestuffs industry in a relatively few chemical companies in a few countries. The exchange of patents and

¹ Although the international limitation schemes did not actually restrict the quantity of crude or prepared cocaine production, no manufacture could take place unless it was within the limits of estimates contained in the League of Nations Supervisory Body's Annual Statement or its Supplements.

² Cf. Ballande, *Ententes*, pp. 44 ff.

³ *Czechoslovak Cartel Book*, p. 269.

technological experience has led to particularly intimate co-operation (to so-called "patent and process agreements") among the big chemical companies, but in spite of that fact there has also been a high degree of specialization due to the requirements of national defense. Intercorporate and financial connections, including jointly-owned producing and selling companies, made cartel relationships closer than usual.

Coal tar dyes were not subject to one marketing control but rather to a network of control mechanisms designed to cover, more or less broadly, defined products in many territories.¹ These marketing controls did not develop overnight but were the result of protracted international negotiations. Before the First World War, about 75 per cent of the world's supply of synthetic dyes and nearly all the intermediates for making the dyes came from Germany.² After 1918, when the Germans sought foreign outlets for their dyes, they were confronted with competition from new or greatly enlarged chemical concerns chiefly in Switzerland, France, the United Kingdom, and the United States. During the first decade after 1918 and even later, the large chemical exporters seemed to be jockeying for positions on the world market. Nor was this merely a struggle for power by private groups. The French, British, and American Governments, after suffering from a severe shortage of dyes during the war, were determined to promote their infant chemical industries by subsidies, tariffs, or other means.³ The Swiss had expanded their chemical facilities during the war and needed export outlets. About 1918, three Swiss companies, *A. G. Für Chemische Industrie* in Basle, *Chemische Fabrik Vormals, Sandoz*, and *J. R. Geigy, A. G.* (called Ciba, Sandoz, and Geigy, respectively) formed a community-of-interests agreement to unify and strengthen their sales position on the export markets. To that end they agreed to pool profits according to a certain ratio, co-ordinate research activities, and consolidate their foreign business.⁴

¹ See Bone Committee, *Patent Hearings*, Part 5, pp. 2333-53. See also United States Tariff Commission, *Dyes, passim*; Ballande, *Ententes*, pp. 75 ff; Borkin and Welsh, *Master Plan*, pp. 93 ff.

² Bone Committee, *Patent Hearings*, p. 2058.

³ It is not surprising, therefore, to learn that two directors of British Dyestuffs were government representatives (U. S. Senate, Special Committee on Investigation of the Munitions Industry of the United States, Congress 74, 2nd Session, Senate Resolution 206, *Hearings*, 1934-1936, Part 12, p. 2857; and *Report*, Part 3, p. 268. (Hereafter cited *Munitions Hearings* and *Munitions Reports*.) See also President Wilson's statement on the dye industry and the steps taken by the American Government to foster a chemical industry.—(Bone Committee, *Patent Hearings*, Part 5, p. 2059 and *Munitions Report*, Part 3, pp. 273 ff.).

⁴ Bone Committee, *Patent Hearings*, Part 5, p. 2137.

In 1924, the German groups (mainly the companies known as Bayer, Badische, Kalle, and Höchst) and the Swiss (Ciba, Sandoz, and Geigy) joined together in a price agreement concerning a few dyes.⁵ Sometime later the Swiss concluded a price agreement with the French relating to dyes for the French market where Swiss imports had been undercutting the French companies. In 1927, the German-French dyestuffs cartel was organized, but this was a somewhat loose organization. It regulated sales on the exports market at the ratio of about 80 per cent for the Germans and 20 per cent for the French.⁶ Like the Swiss, the French and Germans sought to consolidate their interests on the domestic market, partly in order to bargain more effectively with each other for export quotas in any international cartel arrangement. In 1925, within the frame of I. G. Farben, a large number of German chemical concerns were grouped into a workable unit. In the course of 1927, through fusion and agreement, the domestic French interests were linked together in an even more comprehensive grouping than the Germans. The leader and the largest firm was the *Etablissements Kuhlmann*. French participation is sometimes referred to as the Kuhlmann group.

Finally in 1929, the many more or less informal oral understandings culminated in a written agreement between the French, German, and Swiss dye groups, thus establishing the European Dyestuff Cartel. The agreement was to be in force until 1968. Exchange of technological information was the backbone of the cartel. Export quotas, prices, and home market protection were agreed upon. It was estimated that the cartel controlled three-fourths of the world's exports in dyes. Italy and Spain were indirectly connected with the cartel through intercorporate relations.⁷

Negotiations, particularly between the British and German dye interests, were in progress some time before agreement was reached in 1931. The formation of Imperial Chemical Industries, Ltd., in 1926 furthered the prospects of agreement, but not until 1931 did ICI join the cartel. By that time, the British market was sufficiently well-organized to obtain what was considered more favorable terms than those previously offered. The entrance of the British group into the cartel was accompanied by an official investigation in the British Parliament. The investigating committee heard representatives of the British Colour Users' Association, a consumers' group, express strong opposition both to the national and international dye cartels.⁸ In

⁵ *Ibid.*, pp. 2058 and 2068.

⁶ *Ibid.*, p. 2068.

⁷ *Ibid.*, Part 5, p. 2327.

⁸ Dyestuffs Development Committee, *Report*, Cmd. 4191, 1932. Alfred Plummer

1932, Poland, and in 1934, Czechoslovakia, entered the European Dyestuff Cartel.

American co-operation with the European Dyestuff Cartel has been a controversial question and was the subject of a detailed congressional investigation.⁹ The United States market was expressly excluded from the cartel agreements although it was stated that exports to and from the United States by participants were to be regulated.¹⁰ It has been estimated that for some years previous to the Second World War German-Swiss interests owned about 40 per cent of the American dyestuff industry.¹¹

The outsider cannot say how far American and Continental European co-operation was based upon direct oral understandings or upon agreements in which the British acted as intermediaries. Although co-operation between ICI or its predecessors and Du Pont probably existed before 1929, in that year an elaborate patents and processes agreement between the two was drawn up. This simply included dyes in the list of articles concerning which patents and the more important know-how would be exchanged.¹² Though compensation for mutual licensing was envisaged, it is doubtful if this was actually practiced. Co-operation between Du Pont and ICI in the field of dyes naturally extended to their jointly-operated subsidiaries in Canada, Brazil, and Argentina. The largest American producer today is probably National Aniline Chemical Company, a subsidiary of Allied Chemical and Dye Company, representing about 40 per cent of the American market. There is some evidence to indicate that both these American companies (Du Pont and National) co-operated with the cartel on the Chinese and Japanese markets.¹³ Though Japan was not a direct member of the dyestuffs cartel, it may be assumed that Japanese chemical producers led by the Mitsui Company joined these agreements in 1934.¹⁴ It is not known how far, if at all, the U. S. S. R.

refers to Professor D. H. MacGiegor's statement concerning the overriding of public policies by private agreements as exemplary of the dyestuff cartel, *International Combines*, p. 145.

⁹ Bone Committee, *Patent Hearings*, Part 5, pp. 2074-2261.

¹⁰ *Ibid.*, p. 2339.

¹¹ *Ibid.*, p. 2066.

¹² *Ibid.*, pp. 2278 ff. See Appendix VIII for Du Pont-ICI agreement.

¹³ Ciba, in its annual report for 1931, made the following statement, "Although in our last report we pointed out that an agreement relative to the indigo market in China had been concluded between the various manufacturers, including the Americans, which agreement having had as a result a slight improvement in prices, although these cannot yet be considered as satisfactory, our sales of Indigo have been brought to their strict minimum due to the political happenings which have occurred in the Far East . . ."—Bone Committee, *Patent Hearings*, Part 5, pp. 2355 and 2359-73.

¹⁴ *Ibid.*, p. 2091.

participated in mutual agreements. Since she was not an exporter of any consequence, there was no question of her disturbing markets.

One interesting feature of the dyestuffs industry is that the major producers and sellers of dyes are also large purchasers of dyes. No dye company is able to produce a complete line of all categories of dyes. Therefore, it must buy considerable quantities of those shades or types that it does not make. This means that a great deal of information as to types, strength, and prices of dyes is constantly passing from one producer to another, so that co-operation among them is facilitated.

Despite extensive price co-operation on world dye markets, there were reports of competition for new markets, particularly in South America.¹⁵

In December, 1941, the District Court of the United States for the Southern District of New York returned several indictments against American and foreign companies charging them with conspiracy to restrain trade and commerce in dyestuffs.¹⁶

HORMONES

The production of synthetic hormones has developed rapidly as a branch of the pharmaceutical industry. Marketing control in the field of hormones has been linked with the patents and know-how which are involved in their manufacture.

A five-party agreement was entered into on May 26, 1937, by the European firms of *Schering A. G.* of Germany, *Ciba* of Switzerland, *N. V. Organon* in Holland, *C. F. Boehringer & Sons* of Germany, and *Les Laboratoires Français de Chimiothérapie* of France. The agreement covered such products as the male and female sex hormones, and cortin, the cortico adrenal hormone. The agreement divided export markets and protected home markets. It also prohibited co-operation with certain named competitors, though it later changed this regulation. The European members fixed prices.¹ It has been charged that the American affiliates of the European companies adopted the price policies of the parent companies² and limited their research activities in and exports from the United States.³

This group was prosecuted by the Antitrust Division of the Justice

¹⁵ Bureau of Foreign and Domestic Commerce, *World Chemical Developments*, 1938, p. 133.

¹⁶ Bone Committee, *Patent Hearings*, Part 5, pp. 2389 ff.

¹ Kilgore Committee, *Mobilization Hearings*, Part 10, pp. 1132 f.

² *Ibid.*, p. 1133.

³ *Ibid.*, p. 1117.

Department in 1941. Pleas of nolo contendere were entered by the four corporations and by five of their officials, and fines totaling \$54,000 were assessed and paid. A consent decree, signed by the defendants December 17, 1941, enjoined them from further activities in restraint of trade.⁴

HYDROGENATION

A consideration of the hydrogenation processes is vitally important per se if one is to obtain a comprehensive picture of the international trade in essential materials. In addition, such consideration furnishes the student of international marketing controls with information concerning the newest development in large marketing controls.

Hydrocarbons are compounds containing hydrogen and carbon. Through one of the processes of hydrogenation heavy hydrocarbons, such as coal and crude oil, combining many carbon atoms in the molecule are transformed into lighter hydrocarbons containing fewer carbon atoms in the molecule. By introducing additional hydrogen atoms under high pressure or heat into lighter hydrocarbons, valuable products, of which high-grade gasoline is the most important, may be gained. The process is facilitated by the use of catalysts such as nickel and aluminum compounds. These processes in themselves are technologically and economically of paramount significance. The hydrogenation processes, however, with or without the use of catalysts, with or without the use of heat and pressure, with or without the addition of free hydrogen, were the starting point for completely new developments in the oil and chemical industries.¹ They made possible new methods for producing gasoline of a high octane rating, toluol, and butadiene for synthetic rubber. One process combines carbonic oxide gases containing no hydrogen with free hydrogen in order to form light hydrocarbons.

All of these processes were subject to a network of interrelated national and international collective marketing controls.² Controls

⁴ *Ibid.*, p. 1117. A separate action concerning hormones, drugs and chemicals was brought against the American branch of the Swiss Bank Corporation.

¹ Later developments improved the hydrogenation process so that the yields were doubled. The most recent method of producing high-grade oils from low-grade crude oil does not require hydrogenation. This is the sulfuric-acid-alkylation process treating refinery gas with sulphuric acid to give still larger yields. Cf. Bone Committee, *Patent Hearings*, Part 9, pp. 5094-96.

² Not all people agree as to what constitutes a marketing control. In discussing the hydrogenation agreements, Mr. R. T. Haslam, Vice President of Standard Oil Co. of N. J., emphasized, "I have seen no market control agreements in my life since I have been with the Standard Oil of New Jersey."—Bone Committee, *Patent Hearings*, Part 9,

were based primarily on patents and exchange of technological information.³ Even the composition and application of catalysts was subject to separate control mechanisms.

Hydrogenation processes were revolutionary discoveries for entrepreneurs engaged in coal and oil industries. They also were of tremendous political significance, particularly for countries devoid of oil resources.⁴ Hydrogenation processes applied to coal and natural gas⁵ or crude oil are almost interchangeable so that one can visualize a petroleum manufacturer making gasoline from oil when it is plentiful and manufacturing an identical gasoline from coal in case of an oil shortage and perhaps later switching back to oil again.⁶ Obviously, this is an oversimplified statement on hydrogenation but one which it is hoped will smooth the path of the reader through the technical jungles involved in these marketing controls about to be discussed. The fact that by these new processes coal could be converted into any oil product, including gasoline, changed the position of crude oil in international trade. No less important was the possibility that by blocking or restricting these new developments certain traditional monopolistic positions could be protected.

The hydrogenation process was invented by the French chemist and diplomat Pierre Berthelot, but was not developed commercially by him. A process which seemed promising for industrial use was

p. 5052. Mr. W. L. Farish, President of Standard Oil of New Jersey, reiterated the same interpretation, "How anyone could apply the term cartel to this 1929 purchase of German inventions is beyond our understanding."—*Ibid.*, p. 5189.

³ The reader is probably acquainted with the practice in recent years by which large firms gave as little information as possible in patent applications. Sometimes they even distorted information to protect themselves from those who might take advantage of such knowledge to develop processes of their own. This was emphatically denied in reference to the United States by the Standard Oil Co. of N. J.—Bone Committee, *Patent Hearings*, Part 9, p. 5056, and Part 7, p. 3674.

⁴ It is somewhat surprising to learn that people in the United States in the middle twenties were concerned with exhaustion of oil resources, which some authorities believed would be consumed in six years. For that reason, political and business interests were interested in the hydrogenation of coal because coal resources were estimated to be sufficient for two or three thousand years.—Bone Committee, *Patent Hearings*, Part 9, p. 5039.

⁵ According to Wallace E. Pratt the proved American reserves of natural gas are the equivalent in energy of 17 billion barrels, which is almost as large as the underground crude oil reserves of the United States. The transformation of natural gas into liquid fuel costs only slightly more than that of liquid crude oil. Cf. Feis *Petroleum and American Foreign Policy*, p. 15.

⁶ An example where such a change was actually made is mentioned by a vice president of Standard Oil Co. of N. J. In 1931, when supplies of kerosene in New England were short, Standard switched one of its plants over to making synthetic high-grade kerosene, although at that time it was not considered an economical process.—Bone Committee, *Patent Hearings*, Part 9, p. 5043.

discovered by Friedrich Bergius, a German chemistry professor of Heidelberg. The four basic patents were assigned to him in Germany on August 9, 1913. These patents related principally to the hydrogenation of coal under heat and high pressure without the use of catalysts. It was known from the publication of patents that Bergius proposed to apply his process to the hydrogenation of oil as well. But because no laboratory work was done in oil people did not believe that this part of Bergius' proposals was feasible. In Germany the Evag Company was established for domestic exploitation of the patents. Bergius proceeded to take out patents in many countries, including the United States.

The International Bergin Company (IBC) was established in Holland to finance further research and to sell licenses on the Bergius patents. Though Bergius' inventions were the basis of further technological advances, it is highly questionable whether they were commercially important. After the First World War, an international convention extended the life of certain patents for an additional five-year period so that the expiration date of Bergius' patents varied in different countries from 1929 to 1935. Although the process was not put into practical use, governments and private concerns were so interested in it that they strove to obtain shares and controlling interest of the International Bergin Company. At one time, the Royal Dutch Shell Company controlled the whole stock. Shell afterwards sold stock to English, French, and German interests. IBC made contracts for the exploitation of the patents with firms in the United Kingdom, France, Belgium, Luxembourg, Spain, and Austria. By 1928, the IBC was controlled as follows: I. G. Farben, 50 per cent; Shell, 20 per cent; English group, 10 per cent; Bergius and others, 20 per cent.⁷ A struggle for power within IBC developed between IG on the one hand and ICI and Shell on the other hand. According to a reliable report, ICI and Shell joined in obstructionist tactics against IG on the board of IBC. There is little doubt that IBC was badly managed. By 1930 its shares were regarded as practically worthless in view of processes developed by IG.⁸ IBC ceased to be an economic factor in 1931 when stocks and interest came under the control and management of the International Hydro Patents Company, owned by Standard Oil Company of New Jersey and Shell.⁹

It remained to a German company, later a part of IG, to develop

⁷ Bone Committee, *Patent Hearings*, Part 7, p. 3474.

⁸ *Ibid.*, p. 3672.

⁹ *Ibid.*, Part 7, pp. 2549, 3545, and 3667.

hydrogenation of oil and coal on a commercial basis. This company, the *Badische Anilin und Sodafabrik, Ludwigshafen a. Rhein*, made its discoveries at about the same time when Bergius was working on his inventions. In fact, this company was unpleasantly surprised when Bergius preceded them in taking out patents.¹⁰ In 1925, Ludwigshafen resumed its research¹¹ more intensively and laid the foundation for its own pilot plant and for the first commercial production at the Leuna-Werke at Merseburg.

In 1927, when discussions between IG and Standard Oil began in regard to general co-operation, it was decided to divide their interest spheres on world markets into chemicals for IG and oil for Standard.¹² It should be noted that at that time Standard had already produced petroleum from coal in its laboratories. The representatives of Jersey saw that the Germans had advanced considerably beyond their expectations and were already employing the hydrogenation process on a fairly large scale. In 1929, when agreements between the two were considerably strengthened, Jersey bought the coal and oil hydrogenation patents for the world outside of Germany from IG for a large payment¹³ with license fees to be paid in the future.

The agreement between Jersey and IG gave Jersey an 80 per cent financial interest in all of IG's oil, coal, and gas hydrogenation processes.¹⁴ To exercise this control, but principally to divide the

¹⁰ Walter Greiling, *Chemie Erobert Die Welt* (Berlin, 1938), pp. 351 f. Although Bergius did not personally co-operate in the development of the IG patents, IG bought for cash the German Bergius licenses from the Evag Company which was in charge of exploitation of the Bergius patents in Germany. See Bone Committee, *Patent Hearings*, Part 9, p. 3671.

¹¹ The main merit of the IG process was the development of catalysts which could be used without previous purification of that oil which was to be hydrogenated. In the absence of catalysts hydrogenation took place very slowly and only to a limited extent. Up to the discovery of new catalysts by IG the known catalysts were poisoned by the impurities of oil and coal.

¹² Bone Committee, *Patent Hearings*, Part 9, p. 5041. The 1927 discussions did not result in giving Jersey the license for hydrogenation of coal, and did not allow Jersey to relicense anybody else.—*Ibid.*, Part 9, p. 5165.

¹³ *Ibid.*, p. 5252. Jersey drew the following items of importance from IG: "first, the methane steam process that gave the possibility of making hydrogen in large quantities cheaply; second, the IG catalysts which do not require an elaborate purification of the oil to be hydrogenated; third, . . . the knowledge of high-pressure technique, and fourth, designs of high-pressure equipment and the technique of operating them."—*Ibid.*, p. 5095.

¹⁴ See statement of Mr. W. L. Farish, Bone Committee, *Patent Hearings*, Part 9, p. 5186. The assignment of the American and foreign IG hydrogenation patents to the Standard-I-G Company (S-IG) was formally effectuated only after the Second World War started. See Bone Committee, *Patent Hearings*, Part 7, pp. 4140 ff. In addition, IG transferred formally to S-IG its methane steam patents; however, it was made clear that according to the fundamental agreements of 1929, they were to be used

royalties in the ratio of 80 to 20 between the two groups, a key company was set up in which the shares were divided 80 to 20. The company's jurisdiction extended to both the American domestic and the foreign business. Although IG drew royalties from this company, its control was exclusively in the hands of Jersey. The name of the company was Standard-IG Company (S-IG), a corporation of Delaware.¹⁵ S-IG under the direction of Jersey established two parallel licensing systems, one relating to the United States domestic field and the other to the rest of the world outside of Germany.

The licensing mechanism as it related to the United States domestic market is touched upon here briefly. S-IG used the Hydro Patents Company (HP) to supervise the granting of licenses to United States companies. Only oil companies could participate in this plan, and licenses were granted only with reference to the hydrogenation of oil and coal excluding natural gases. They were prohibited from employing these processes to manufacture chemical products. Licensees were also obligated by a system of cross-licensing to pool any improvements on the patents which they might develop. About eighteen oil companies which took out licenses, including Jersey which held 40 per cent of the stock, became shareholders in Hydro Patents Company. In addition, unless the licensees used their own unpatented catalysts, they were required to purchase their catalysts from an auxiliary company called the Hydro Engineering and Chemical Company. A recent consent decree (after indictment by the Antitrust Division of the Department of Justice) designated the American hydrogenation plan as not in harmony with the antitrust acts.^{15a}

The other licensing mechanism relating to all countries of the world (except the United States and Germany) had its central organizations in Europe. S-IG transferred on March 31, 1931, its rights with reference to foreign countries to a company established for that purpose and owned by Jersey, the International Hydrogenation Patents Company (IHP), a company of the Principality of Lichtenstein, later

(in this connection) only for hydrogen manufacture in processing of specified petroleum products. Thus IG kept the right to the methane steam patents outside the oil field. The methane steam patents were, under the same reservations, in Sept., 1939, assigned to Standard Oil. See Bone Committee, *Patent Hearings*, Part 9, pp. 5210, 5214, 5219.

¹⁵ After Standard acquired IG's 20 per cent interest in this company in Sept., 1939, the name was changed to Standard Catalytic Co. Cf. Bone Committee, *Patent Hearings*, Part 7, pp. 3411 and 4137.

^{15a} *Press Release* of the Justice Department, Dec. 4, 1944. The consent decree of March 25, 1942, together with a supplemental order of Dec. 4, 1944, will lead to the dissolution of H. P. These decrees provide that Standard Oil Development Co. and Standard Catalytic Co. take over the functions of HP as licensor.

of Holland.¹⁶ Thus IHP was in charge of the exploitation of these (and related) patents in foreign countries. In addition, IHP organized a Dutch company, International Hydrogenation Engineering and Chemical Company, which sold catalysts and served as technological advisor to the licensees. Cross-licensing agreements existed between HP and IHP and between the American domestic and the foreign engineering companies. A licensee of the IHP was supposed to enter into a cross-licensing agreement with IHP.

Jersey sold 50 per cent of the shares of IHP to Shell in April, 1931, for \$10,500,000.¹⁷ This meant, broadly speaking, that on markets other than the United States of America and Germany, Jersey and Shell controlled hydrogenation and refinery processes, having an equal share in the control mechanism.¹⁸ The origin of this transaction may be traced to the initial negotiations between Jersey and IG about hydrogenation. Between 1926 and 1928 Shell negotiated directly with IG about buying the hydrogenation processes. Seemingly the reason why no agreement was reached was that Shell was already engaged in the fertilizer business and competed with IG in that field. When Jersey started to discuss seriously with IG the buying of hydrogenation processes there was no doubt left that as soon as the transaction was concluded it would offer a 50 per cent participation to Shell.¹⁹ Shell itself had some patents in the hydrogenation field, and the agreement of April, 1931, provided for permanent cross-licensing between Shell and IHP, as well as for bringing under control of IHP the stock of IBC. As in other transactions the Anglo-Iranian accompanied Shell in this business.

According to a system which may be deduced from the published agreements, it may be assumed that four agencies were in charge of carrying out the provisions of the hydrogenation arrangements. These

¹⁶ The contract between S-IG and IHP is printed in Bone Committee, *Patent Hearings*, Part 7, pp. 3587 f. The domicile of IHP was transferred after 1932 to Holland. IHP had to pay 20 per cent of all royalties it collected for the use of the process. This 20 per cent in turn was paid to IG. (*Ibid.*, p. 3664.) The International Hydrogenation Patents Company first domiciled in Vaduz (Lichtenstein), later in Holland, must not be confused with the International Company, a corporation of the Principality of Lichtenstein, domiciled in Vaduz. The International Company was and remained fully owned by Jersey and acted for Jersey in the transference of patent rights to IHP. See *ibid.*, pp. 3596 ff.

¹⁷ Out of that amount, the payment of \$3,000,000 was deferred. In view of very poor earning prospects Jersey waived this amount.—*Patent Hearings*, Part 7, p. 3656.

¹⁸ It is insignificant from the point of view of this study that Shell often objected to that arrangement, asserting that its position in the United States of America and Germany was an inferior one.

¹⁹ See Bone Committee, *Patent Hearings*, Part 7, pp. 3658-59, 3662.

were: (a) IHP, as mentioned above, was in charge of licensing within the United States; (b) IG was in charge of similar operations in Germany; (c) Jersey was in charge of licensing foreign subsidiaries of American companies except in the territories mentioned in (a) and (b); (d) the remainder, except for the special positions mentioned below, came under the jurisdiction of the Shell group.²⁰ There were, however, three exceptions to the jurisdiction of these parties. One was Anglo-Iranian. None of the above four had the right "to take over the 'as is' position of Anglo-Iranian, or the obligation to hold it."²¹ The "as is" position referred to their marketing positions as of 1928 concerning petroleum products (discussed in this study under the heading "Petroleum"). Thus any company, customer, or territory recognized as within the interest sphere of Anglo-Iranian with reference to natural oil products also belonged to her in regard to hydrogenation. The second exception was the Soviet Union. This country did not come under the jurisdiction of either of the licensors. It was assumed in one report that the problem of Russia would be decided by Jersey and Shell as soon as the Russians would agree to permit Jersey and Shell to market their exports.²²

The third exception related to the British Commonwealth of Nations. ICI bought for a consideration of \$1,000,000 and an additional \$200,000 yearly the right to license coal-hydrogenation up to 25 per cent of current consumption among entrepreneurs in the British Commonwealth. In addition, it entered into a cross-licensing scheme as the other connected companies did. According to a special commercial agreement, oil derived from hydrogenation of coal by ICI was to be marketed by oil companies approved by IHP.²³ Except for Germany and the United States, all these agreements were predicated upon maintenance of the 1928 "as is" position.²⁴

The uninformed layman would assume that Jersey and Shell were interested in receiving large license fees for hydrogenation. However, such assumptions must be weighted in the light of the fact that the great oil firms were primarily interested in selling petroleum produced from crude oil. There is evidence that as a rule their policy was not to encourage hydrogenation projects nor to grant licenses unless governments showed considerable interest in the processes. They even hoped to "retard slightly the development of coal, tar, etc. hydrogenation."²⁵

²⁰ *Ibid.*, p. 3666.

²¹ *Ibid.*

²² *Ibid.*, pp. 3350 and 3666.

²³ *Ibid.*, Part 7, pp. 3609, ff., 3623 ff., 3702.

²⁴ *Ibid.*, p. 3666. See also Appendix, pp. 486 f.

²⁵ *Ibid.*, p. 3554. This policy was later regretted.—*Ibid.*, p. 3731.

More than three years after the general agreement was initiated, Shell with some bitterness remarked, in connection with the large amount paid for its participation in IHP, that the hydrogenation process as of May, 1933, was nowhere yet applied except in the United States where Jersey used the process mainly for the production of lubricants; and even in Germany, production of the Leuna plant was rather unimportant.²⁶

After 1935, Germany expanded its Leunawerke. Japan started to build hydrogenation plants with German encouragement. Italy began construction of a plant. Other countries including France could not make up their minds though they held continual discussions about taking out patent licenses with IHP.

By 1936, Jersey and Shell had become aware that they were losing their preferential position in this field of hydrogenation through the development of competing processes. One of these was a process invented in 1923 by Professor Franz Fischer and his assistant, Dr. Tropsch, both of the Coal Research Institute in Mühlheim, Germany. This process used catalysts without pressure. However, Fischer did not succeed until later (1927) in finding proper catalysts. His process was purchased by the Ruhr steel interests united in *Ruhrchemie, A.G.* A second process was developed in the early thirties by Professor Pott, who used tetralin and phenol as solvents. A third synthetic process of some commercial significance was invented by the German Professor Uhde. As soon as the partners, Jersey and Shell, became concerned over the prospects of these developments, they began to contact these groups. Negotiations between these groups were long and difficult. Eleven agreements as of October 7, 1938, were finally executed between Standard, Shell, Ruhrchemie, I. G. Farben, Kellogg (an American oil company), and IHP, establishing a worldwide system similar to that which had been set up for hydrogenation. The Hydrocarbon Synthesis Corporation was set up by the partners for the American and Canadian markets. The International Hydrocarbon Synthesis Corporation, set up to regulate these patents for all markets outside of Germany and the United States, and IHP had a common management, thus centralizing all processes for the synthetic production of petroleum products. The complex nature of the latter agreements can best be summarized by quoting one of the executives of Standard Oil. He wrote:

The attempt which we have conscientiously made to take care of the conflicting interests of the various partners, and to provide for various con-

²⁶ *Ibid.*, p. 3669.

tingencies which may arise, gives me the feeling that if this deal is ever completed it will be so frightfully complicated that only those who have worked intimately and constantly in connection with the preparation of the documents and who have participated in the discussions will ever be able to understand it.²⁷

There were innumerable processes in addition to hydrogenation which related to oil refining—cracking processes, etc. A discussion of these is included in reports of the Bone and Truman Committees of the United States Senate. It is noteworthy that negotiations between Jersey and Shell were in progress in 1939 before the outbreak of war, contemplating a complete merging of their mutual patents and technological experience in the oil field.²⁸ Early in 1938 under the leadership of Jersey negotiations were started among all American-, British-, Dutch-, and German-interested groups to find a feasible arrangement for market co-operation in hydrogenation and related fields. These discussions culminated in a settlement early in 1939. Only the American Sun-Houdry group remained outside this plan.²⁹

Although the economist will find the study of these problems exceedingly difficult, the international trade in petroleum, which amounts to almost four and one-half per cent in value of the total world trade, deserves to be studied also from the technological point of view. There is little doubt that after the war all marketing aspects of oil will become even more important.

HYDROGEN PEROXIDE

Hydrogen peroxide (H_2O_2), a compound marketed only in aqueous solution, is produced by various chemical processes. The electrolytic process is rapidly supplanting other methods of manufacture, especially in the United States. Barium compounds are the starting point for the manufacture of hydrogen peroxide except in the electrolytic process where barium is replaced by ammonium compounds. Hydrogen peroxide is used as a bleaching agent for cotton textiles, as an oxidizing agent in photography, as an antiseptic agent, and as a catalytic agent in hydrolyzing starch. It is also employed in the refining of oils, in the preparation of gelatine and other food products, in the preservation of tanning extracts, and in brewing.

International marketing controls in hydrogen peroxide were based on patents and processes agreements. One of the most important was the ICI-Du Pont agreement of 1939 providing for an exchange of patents on "alkali metals such as metallic sodium, and chemicals manu-

²⁷ *Ibid.*, p. 3737.

²⁸ *Ibid.*, p. 4122.

²⁹ *Ibid.*, pp. 4135 f.

factured from these metals such as cyanides and peroxygen compounds (including hydrogen peroxide)."¹ Corwin Edwards has charged that the International Hydrogen Peroxide Cartel embraced American, English, and German manufacturers of hydrogen peroxide and that the cartel used patents to prevent other plants from engaging in the manufacture of hydrogen peroxide.² According to other sources, an International Convention of Hydrogen Peroxide and Barium was established in 1932 with members in Germany, France, Austria, Belgium, Switzerland, Poland, and England.³

LEAD COMPOUNDS

A great many lead compounds are available in very finely ground form, i.e., pigments. Among lead oxides, litharge, or lead monoxide, used for making lead salts in the manufacture of glass, rubber, etc., red lead, or minium, and lead dioxide are the best known.

The International Lead Oxide Convention was based on an agreement regulating prices and export quotas, besides stipulating home market protection. A provision that members would not disclose their production secrets to non-members was inserted. Firms in Great Britain, Germany, and the United States were thus linked. According to the Polish Cartel Register the International Lead Oxide Convention was established in London in 1929. Members were from Poland, Germany, Czechoslovakia, Austria, Great Britain, France, Italy, Belgium, Spain, Latvia, Hungary, Rumania, Switzerland, Portugal, Argentina, and Brazil.¹

Exporters of white lead, or basic lead carbonate, were united in the International White Lead Entente, which had headquarters in London. The cartel was under British leadership, established in 1927 by the national cartels of Great Britain, Germany, Belgium, France, and Italy. In addition to home market protection, export quotas and export prices were determined. According to Laurence Ballande the cartel maintained moderate price policies because of Canadian, Japanese, and Soviet competition.²

Several patent agreements reinforced marketing restrictions on pigments.³

¹ See Bone Committee, *Patent Hearings*, Part 5, p. 2308.

² Military Affairs Committee, *Monograph No. 1*, p. 38.

³ *Polish Political and Economic Yearbook*, 1938, pp. 761 f.; Bureau of Foreign and Domestic Commerce, *Chemical Developments Abroad*, 1939, p. 9.

¹ *Polish Political and Economic Yearbook* 1938, p. 761.

² *Ententes*, pp. 69 f.

³ Bone Committee, *Patent Hearings*, Part 5, p. 2351.

NITROGEN

The International Nitrogen Cartel did not consist of only one agreement but of a network of intertwining bilateral and multilateral ententes. Intercompany connections in the industry were numerous and transcended national boundaries. The cartel also did not pertain to only one product but to a great number of commodities. Technological advances in the chemical industry have brought many changes in the production of nitrogen, and since the advent of synthetic nitrogen, nitrogen has been inextricably bound up with the heavy chemical industry. Nitrogen agreements have been directly and indirectly related to domestic and international cartels of other heavy chemicals. The nitrogen market has frequently been subject to various political influences because of the importance of nitrogen to agriculture in replenishing of soil and because of its importance as a necessary element in the manufacture of explosives. Governments in the thirties not only levied custom duties on nitrogenous products but by means of direct subsidies to and other methods promoted the rapid expansion of their nitrogen industries.

The International Nitrogen Cartel was primarily concerned with "chemical" nitrogen, not with "organic" nitrogenous products. Nitrogen is not marketed as such, but is sold as "fixed nitrogen," that is, in the form of compounds. These compounds contain from 16 per cent to 46 per cent nitrogen. They may be compared as to content, and thus intercommodity competition on that basis is frequent. The primary sources of chemical nitrogen are certain mineral deposits and the air.

Mineral deposits of nitrates in the form of sodium nitrate are found chiefly in Chile. Commercial development of the Chilean sodium nitrate industry began in 1831 but did not become important until after 1880. Foreign capital, chiefly British and American, has been invested in large sums to exploit these fields. Technological changes in mining and leaching have proceeded up to the present time. The two modern processes of recovering sodium nitrate essentially relate to mining and leaching operations by which the ore or caliche is mined and transported to local plants in order to be crushed, leached, and crystallized. The older Shanks process is still predominantly used although the newer Guggenheim process appears to be more economical. In the course of production several by-products, the most important of which is iodine salts, are recovered. The early recognition of the importance of nitrate deposits is illustrated by the following

quotation from *The Wheat Problem* by Sir William Crooks, published in 1900:

Some years ago Mr. Stanley Jevons uttered a note of warning as to the near exhaustion of our British coal fields. But the exhaustion of the world stock of fixed nitrogen is a matter of far greater importance. It means not only a catastrophe little short of starvation for the wheat eaters, but, indirectly, scarcity for those who exist on inferior grains, together with a lower standard of living for meat eaters, scarcity of mutton and beef, and even the extinction of gunpowder.¹

A second mineral source of nitrogen is coal, from which nitrogen, primarily in the form of ammonia, is recovered as a by-product in the manufacture of coke and gas. About 1880, the European coke industry began using the Otto Hoffman type of coke ovens, which permitted the recovery of ammonia and tar as by-products. After 1900 there was a gradual growth in the production of nitrogen by this method because of the production of large quantities of coke for the rapidly growing iron and steel industry. In the last ten years gas manufacturing plants have also adopted the by-product coke-oven type of equipment for producing nitrogen. The fixation process of removing nitrogen from coal gas is fairly simple because by conducting the gas through water or sulphuric acid, ammonia liquor or salt ammonium sulphate is gained.² This product is usually referred to as by-product nitrogen.

The history of producing nitrogen from the air is one of the fascinating industrial romances of the twentieth century. Germany first developed the synthetic production of ammonia on a commercial basis in 1913. However, until after the First World War there was little technical information outside of Germany on the fixation of nitrogen according to the Haber-Bosch process.^{2a} The basic patents on this process expired in 1927. There are now roughly a dozen more or less similar processes used to produce nitrogen as ammonia from the air combined with hydrogen obtained from coal and water. In all of

¹ Cf. *Phosphate Hearings*, p. 974.

² U. S. Tariff Commission, *Chemical Nitrogen*, p. 32. According to this report, one metric ton of nitrogen was being produced in 1928 for every 211 metric tons of pig iron.

^{2a} Carl Duisberg, the leader of the German chemical industry stated May 17, 1915, in the German Reichstag that his firm (*Badische Anilin*) received from the United States the most attractive offers to license the Haber-Bosch process in American plants. However, unlike other German chemical entrepreneurs, he resisted these invitations because he intended to build a great national nitrogen industry in Germany. Carl Duisberg declared he was glad to offer the process to every German entrepreneur because he was opposed to the monopolistic exploitation of the process by one group. Cf. *Erinnerungen, Vorträge und Reden aus den Jahren 1882-1921* (Berlin, 1923), p. 337.

these processes, the production of synthetic ammonia is divided into two distinct operations. The first is the preparation of the mixture of hydrogen and nitrogen. The second is the synthesis of ammonia from this mixture.³

The list of nitrogenous products is confusing to the layman. Approximately twenty-five products are produced by the nitrogen industry. Of these, three—Chilean natural sodium nitrate, calcium cyanamide, and ammonia—are called primary forms, and from these the secondary products are made. Since the First World War, synthetic nitrogen in the form of ammonia has become the leading commercial product. About 90 per cent of the world's consumption of nitrogen goes into fertilizers and 10 per cent into industrial uses. Chilean sodium nitrate and cyanamide are now almost exclusively used for fertilizers.

The first international nitrogen cartel, often referred to as the CID (*Convention Internationale de l'industrie de l'Azote*), was established in June, 1929, by a series of agreements between the German and British nitrogen syndicates.⁴ CID in turn arrived at an agreement with the Association of Chilean Producers. Subsequently, the Norwegian Hydro-Electric Nitrogen Company, connected by intercorporate ties with I. G. Farben, joined these groups. The formation of the cartel was accompanied by a general lowering of prices to stimulate the consumption of nitrogen for fertilizers. The agreement was for one year.

The second international nitrogen syndicate was set up in Berlin on August 9, 1930, for one year. According to an official communique released by the German nitrogen syndicate, "the consolidation of the nitrogen market resulting from these international agreements will bring to agriculture greater advantages in the long run, than a temporary fall of prices which may have been expected from a competitive action between the manufacturers, since in the latter case the industry would be compelled to regain the losses suffered from such competition through price advances during a longer period of time to follow."⁵ The basic agreement was concluded by the so-called DEN group (Deutschland, England, Norway). The DEN group then

³ U. S. Tariff Commission, *Chemical Nitrogen*, p. 40. About the methane steam process see Bone Committee, *Patent Hearings*, Part 9, pp. 5210 ff.

⁴ Eleven countries producing synthetic nitrogen discussed collaboration in a meeting in 1926 in Biarritz (France). However, the foundation for the 1929 agreement was laid in the so-called Adriatic Conference, in 1928. Cf. T. W. Stadler, *Kartelle und Schutzzoll* (Berlin, 1933), p. 52.

⁵ U. S. Tariff Commission, *Chemical Nitrogen*, p. 83.

signed separate agreements with most of the remaining European producers, namely those in the Netherlands, Belgium, Czechoslovakia, Italy, Poland, and France, in order to regulate prices and to allocate export tonnages and markets. The United States did not join the cartel. A striking feature of this cartel was the special indemnity fund of \$3,000,000 set up to provide for premiums to be paid to those adherents who confined production to less than 70 per cent capacity. The Chilean producers were assessed \$750,000 in payment for the privilege of unlimited exports. In August, 1930, a joint stock company named the *Internationale Gesellschaft der Stickstoffindustrie, A. G.*, was chartered in Basle, Switzerland, to administer the agreement and facilitate the elimination of nitrogen-producing plants regarded as uneconomical. Although the *Internationale Gesellschaft der Stickstoffindustrie* was originally designed to be the selling agent for the cartel, the DEN group has in fact maintained separate selling organizations through which most of the European exports were routed. Co-operation within the cartel was not satisfactory because large and small countries were dissatisfied with their production and export quotas. The cartel broke down on July 14, 1931. On the same day the Germans introduced import duties on nitrates. Several European countries followed suit with tariffs and other import restrictions on nitrogenous products.⁹ Competition between the Europeans and the Chile group became a sharp price struggle.

The third international nitrogen agreement was concluded July 21, 1932, in London by the DEN group and representatives of France,

⁹ The history of the disintegration of the International Nitrogen Cartel in 1931 deserves careful consideration. Because of the world crisis, demand for fertilizer-nitrogen was, in the season 1930-31, 20 per cent lower than in the preceding season. Unsold stocks of nitrogen fertilizers in Europe and Chile in the spring of 1931 exceeded the probable demand in the coming season (about 1,200,000 tons). World capacity of nitrogen production amounted to more than 3,500,000 tons. Thus large plants had to operate at 20-30 per cent capacity. Despite that situation, everything possible was done in the spring of 1931 to prolong the European Nitrogen Convention and its agreement with Chile. The Europeans offered to reduce their output to 50 per cent of capacity. However, Chile refused to restrict her production and exports. In May and June, 1931, the governments of Germany, France, Poland, and Belgium threatened to introduce custom duties and other restrictions on the importation of nitrogen. The German Government published on June 6, 1931, an Emergency Decree empowering the executive branch to introduce import duties on nitrogen. On July 14, 1931, it became obvious that no co-operation in the international market would be possible. The same day the Cabinet introduced import duties on nitrogen (77.4 Pfennigs per kilogram nitrogen on Chile saltpeter and 60 Pfennigs per kilogram nitrogen on ammonium sulphate). On August 17, 1931, the German Government, following the example of other countries, put the importation of nitrogen products on the list of commodities requiring a special license.

Italy, the Netherlands,⁷ Belgium, Switzerland, Poland, and Czechoslovakia. Chile participated in that arrangement. However, it did not renew its membership in 1933. The reason for that was that the Chilean domestic cartel, the Cosach, was dissolved by governmental decree January 2, 1933, with bankruptcy privileges. The Chilean nitrogen industry was re-organized as of January 8, 1934. The Chilean Nitrate and Iodine Sales Corporation was established by the Chilean producers with the government's blessing and granted an outright monopoly on the exporting of nitrate of soda and iodine. This Chilean company not only sells the nitrate of soda and distributes the profits from its sales pro rata to the said producers but also fixes production quotas for each producer. It maintains selling subsidiaries in New York and London.

The Chilean group entered the cartel again when the fourth international agreement was reached in Paris in April of 1934. Chile received a quota of 300,000 metric tons. Although according to the master agreement home markets were to be protected, a partial exception was made in the case of Chile, who was allowed to ship certain quantities of nitrate of soda to the home markets of the cartel adherents. (These amounts were reported to total some 50,000 metric tons.)⁸ At this time, Japan also joined the international cartel. The agreement with Japan limited her exports of ammonium sulphate and fixed a minimum price of 140 yen per ton. Japan was not permitted to make deliveries to European countries nor to Indo-China, though the American market remained unlimited. Later, however, this market too was closed to Japanese exporters.⁹

The 1934 agreement introduced penalties for amounts in excess of export quotas. These penalties balanced the premiums paid for not exhausting quotas. Proceeds from export sales were paid to the Inter-

⁷ The United States Tariff Commission reports that one producer in Holland received about 4,500,000 Reichsmarks from the Swiss *Internationale Gesellschaft der Stickstoff-industrie* for reducing its production for the year ending June 30, 1933, to 15,000 tons of nitrogen. See U. S. Tariff Commission, *Chemical Nitrogen*, p. 85.

⁸ According to a report, Chile received a quota of 50,000 metric tons of nitrogen yearly for export into countries participating in the agreement. To other countries (outside the U. S.) Chile could export the same quantities as she did in 1933. The market of the United States was not subject to limitation. U. S. Tariff Commission, *Chemical Nitrogen*, p. 86.

⁹ The exports of Japan were limited to 50,000 metric tons yearly. According to official trade statistics, in 1934 the Japanese exports did not exceed 8,000 short tons of nitrogen content. (See U. S. Tariff Commission, *Chemical Nitrogen*, pp. 86, 95.) In 1935, an agreement was made to restrict the imports to Japan for the first semester of 1936 and the exports of Japan the second half of the year. See *Kartell-Rundschau*, 1936, p. 135.

national Nitrogen Association, Ltd., in London, a company set up by the cartel to act as trustee for the making of payments due to the various groups in accordance with the cartel agreements. All payments were computed upon the basis of an average price for all export sales.

Export quotas were assigned to each member, domestic and colonial markets were protected, and special quotas were set up for special products not used as fertilizers. The United States market was open to all signatories. Determined export prices were frequently nullified by the deterioration of currencies in Europe and elsewhere. By establishing price policies the cartel attempted to make it possible for all its members to exhaust their export quotas. Exchange of technological experiences among big producers was regulated in separate understandings. Price ratios were determined for different kinds of articles. One feature of the marketing scheme was a comprehensive arbitration system for the adjudication of disputes. This mechanism, however, was never called upon to function.¹⁰ Exchange of statistical and other information provided for extensive knowledge of prevailing conditions on export markets.

The tendencies of the cartel to limit capacity sometimes met with strong resistance. Corwin D. Edwards in his paper read before the Washington meeting of the American Economic Association on January 23, 1944, recalled this story: "In negotiation incident to the re-establishment of the nitrogen cartel, a representative of DuPont had difficulty with a stiff-necked Dutch producer who disliked the idea of limiting production. The representative wrote: 'He claims very low costs and is determined to export that portion of his production (which to him apparently means capacity) which he cannot sell in Holland. . . . I used all the arguments you gave me and a few I thought up myself, but he is simply determined to sell his output.'"¹¹

Effective July 1, 1935, a new agreement was consummated similar to the one already in force, and this pact was extended without significant changes for three more years.¹² According to a reliable report, the agreement did not provide for uniform export prices.¹³ The chief difficulty in arriving at a prolongation of the agreement in 1938 was

¹⁰ The arbitration provisions are quoted verbatim in Ballande, *Ententes*, p. 95.

¹¹ "International Cartels as Obstacles to International Trade," *American Economic Review*, March, 1944, Supplement, p. 333.

¹² *The Economist*, January 28, 1939, p. 199, and Bureau of Foreign and Domestic Commerce, *World Chemical Developments*, 1938, p. 55.

¹³ *Compass*, p. 944.

that the world production capacity was double the consumption.¹⁴ The world consumption of pure nitrogen amounted to 2,872,000 metric tons from July 1, 1937, to June 30, 1938.¹⁵

In literature there are few clues as to participation by United States and Canadian producers in these agreements. However, an indictment by the Antitrust Division of the United States Department of Justice charged that the most prominent American companies, including Canadian firms, had conspired with European producers to regulate the export and import of chemical nitrogen. Furthermore, the indictment alleged that the American company, which is a large producer of synthetic sodium nitrate, had contracts with the Chilean producers and sold at cartel prices.

The many political implications connected with the international nitrogen market will be of great significance in the future. Under the impact of the Second World War, nitrogen capacity has expanded enormously. It has been estimated that the United States, for example, has increased its nitrogen capacity from 600,000 tons in 1939 to 1,320,000 short tons in 1943 and has become the largest producer of synthetic nitrogen in the world. A good deal of this increased capacity is from government-owned plants which if not transferred to private hands will further complicate the political aspect of the problem.

The position of Chile in the post-war nitrogen market seems peculiarly precarious. In fact, a few experts think the Chileans will eventually be put out of the nitrogen business by United States producers. If so, this would bring serious social and economic dislocations—unemployment, and great loss of revenues from taxes. The political repercussions would be severe, especially in the light of the United States' good neighbor policy. The fact that most of the Chilean properties and companies are now largely in the hands of United States investors cannot be ignored. It is no exaggeration to say that the prospects are that Chile's economy will require great adjustment to the changed situation after the war. Mr. P. T. Ellsworth is of the opinion that "restoration of cartel arrangements, such as existed between 1929 and 1939, and to which Chilean producers intermittently adhered, might guarantee the country a modest though reduced market."¹⁶ The February, 1944, issue of *Fortune* speculates about this

¹⁴ League of Nations, *Circular E 1067*, March 15, 1939. Of course, one may object that the demand would have been larger if prices had been lower. However, with reference to the situation in 1938 such statements require many qualifications.

¹⁵ *The Economist*, January 28, 1939, p. 199.

¹⁶ *Chile: An Economy in Transition*, p. 140.

problem: "... the United States will face the problem of whether to import Chilean nitrate regardless of price. It can decide to ignore the Chileans. But if it decides to import, it must decide how much to import and how to pay for it, i.e., it must assign a quota and arrange a subsidy. This would hardly be a good condition for continued free competition and lower prices."¹⁷

OPIUM

Opium is a gum resin derived from the unripe capsule of a species of poppy, *Papaver somniferum*. It contains several alkaloidal substances of which the most important is morphine. Crude opium was formerly imported from India chiefly to Great Britain.

Turkey had a state monopoly over the growing of opium.¹ Yugoslavia and Turkey maintained under government auspices a collective marketing agency for the export of crude opium. It was established April 14, 1932, with headquarters in Ankara and was periodically renewed. A sales office was established in Istanbul. Turkey received an export quota of 74 per cent, and Yugoslavia, 26 per cent. In the determination of export prices, the opinions of the two governments were decisive.²

On February 8, 1933, an International Opium Alkaloid Convention was established with the participation of private producers of Czechoslovakia, Germany, Switzerland, England, and France.³

The Hague Convention of 1912 and several other government agreements restricted the production and trade of opium. Especially imports and exports had to move within limits determined by international agencies. The comprehensive international conventions of 1924, 1931, and 1935 were executed under the supervision of the League of Nations.

OXALIC ACID AND FORMIC ACID

Oxalic acid may be made from carbohydrates and caustic alkali. It is used as a purifying agent in many chemical processes. Formic acid is made by the oxidation of methyl alcohol or formaldehyde. It is used in making dyes and textiles, in electro-plating, as a rubber coagulant, and for other purposes too numerous to elaborate.

The world markets of both of these commodities were regulated

¹⁷ Pp. 242-43.

¹ Bureau of Foreign and Domestic Commerce, *World Chemical Developments, 1938*, p. 179.

² Ballande, *Ententes*, p. 49.

³ *Czechoslovak Cartel Book*, p. 269.

by international agreements¹ under the leadership of *I. G. Farbenindustrie*, beginning in 1931. The agreement was renewed in 1937 to last until 1941. The members of the cartel were firms in Germany, Czechoslovakia, and Holland. Export quotas and prices were agreed upon.²

PARAFFIN

Paraffin is obtained from the distillate which is derived from the fuel-oil fractionation of petroleum. Paraffin is used industrially as an impregnating material. It is also an important ingredient in the production of matches, candles, lubricants, etc.

An International Paraffin Cartel was established in 1929 with British, American, Rumanian and Austrian participation. The Polish petroleum export cartel, which was a government-controlled undertaking, entered the international paraffin syndicate in February, 1935, and obtained an export quota amounting to 10 per cent. The central European market was assigned to it. There are few details about the cartel. It seems likely that there existed some competition from several outsiders.¹

PHARAMACEUTICALS

The pharmaceutical industry covers a wide variety of products, some of which are used in various other branches of industry. It is inextricably tied to the chemical industry because chemicals are often the raw materials for pharmaceuticals and because chemical processes are used in manufacturing drugs, especially synthetic drugs. In fact, many chemical companies maintain a pharmaceutical department, although in the United States the pharmaceutical companies are usually organized as separate companies.

International trade in pharmaceuticals is usually cartellized on the basis of patents, processes, and trademark agreements. It is impossible to list all the agreements existing in this industry, but a description of a few of them may give a general indication of their nature. Some articles such as quinine, iodine, cocaine, hormones, opium, vitamins, etc., because of their importance, have been treated separately in this volume.

The term pharmaceuticals in commercial usage applies not only to drugs in a narrow sense but also to those products from whatever

¹ Ballande, *Ententes*, p. 90. See also Bone Committee, *Patent Hearings*, Part 3, p. 1380, and Part 5, pp. 2336, 2337, and 2342.

² *Compass*, 1939, p. 946.

³ Ballande, *Ententes*, p. 296; League of Nations, *Circular E.* 946, July 5, 1936.

source which are used medicinally. The production of synthetic medicinals from coal-tar has developed along with the synthetic dye-stuff industry.

The leader in many of the international agreements relating to pharmaceuticals was the German concern I. G. Farben, negotiating directly or through one of its subsidiaries or affiliate. *Schering A. G.* and Ciba, the large Swiss exporter of pharmaceuticals and dyestuffs, co-operated in the exporting of pharmaceuticals. In 1939 a Swiss company partly owned by Ciba was organized to control Schering Corporation (formerly an American subsidiary of *Schering A. G.*) allegedly to avoid confiscation by the Alien Property Custodian.¹ At the close of the First World War, the Sterling Products Company, a large drug concern in the United States, purchased the New York Bayer interests from the Alien Property Custodian. Its most valuable asset was the "Bayer Cross," the trademark of Friedrich Bayer Company of Germany, and famous throughout the world. This purchase, however, did not confer clear rights and titles to some of the former Bayer properties in South America and the United Kingdom. Faced with the prospect of prolonged litigation with the German Bayer interests, Sterling made an agreement on October 28, 1920, in New York with Friedrich Bayer & Company of Leverkusen (called Leverkusen), Germany, later a member of the IG combination.² This agreement covered trademarks and patents for aspirin (acetylsalicylic acid) and provided for pooling profits from sales made by either party in South or Central America.³ An agreement between German, French, and Polish firms relating to the sale of aspirin in the Polish market was registered in the *Polish Cartel Statistics*.⁴ In 1923, a more elaborate agreement embracing a wide variety of pharmaceutical products was drawn up between the two companies (the German and American) to remain in force for fifty years. This contract restricted the sale or exchange of intermediates or chemicals and products such as solvents, photographic materials, artificial silk products, etc., but regulated perfumery, toilet articles, cosmetics, insecticides, germicides, as well as

¹ See Berge, *Cartels*, pp. 72 f.

² Several years before the First World War the pharmaceutical products of *Badische Anilin* were sold by the firm Schieffelin and Co. in New York. The main pharmaceutical product of the firm at that time was phenacetin, patented only in the U. S. and in no other country. Carl Duisberg, President of IG, complained bitterly that phenacetin was smuggled to the U. S. from countries in which it was not patented, usually by stewards of big lines docking in Canada. The price of phenacetin in countries outside the United States was one-twentieth of what it was sold for officially in the U. S. See Carl Duisberg, *Meine Lebenserinnerungen*, p. 86.

³ Borkin and Welsh, *Master Plan*, pp. 138 ff.

⁴ *Polish Cartel Statistics*, p. 85.

pharmaceuticals.⁵ This co-operation was strengthened in 1926 when IG acquired a fifty per cent interest in the Winthrop Chemical Company, a subsidiary of Sterling's which manufactured and sold many of its pharmaceuticals other than aspirin. Amendments to the 1923 agreement were made from time to time, the most important being the 1926 agreement, which enlarged the number of pharmaceuticals under agreement.⁶

IG also exercised influence on the marketing of pharmaceuticals through agreements between Alba Pharmaceutical Company of New York (another subsidiary of Sterling) and *Chemosan Union A. G.* (Chemosan) of Vienna, Austria; and *Chemisch-Pharmazeutische A. G. Bad Homburg* (Homburg) of Frankfurt am Main, Germany, both of the latter companies controlled by IG. On January 29, 1938, two agreements in the nature of agency contracts, one relating to the territory of the United States and its dependencies, the second to foreign territories (Canada, Newfoundland, Curaçao, Cuba, the Philippine Islands, etc.), were signed by Alba and Chemosan. These contracts were to remain in force for ten years beginning January 1, 1937, and contained various provisions, one relating to arbitration procedure in case of conflict between the parties.⁷

On September 5, 1941, a complaint was filed by the Antitrust Division against Alba Pharmaceutical Company, Inc., the Bayer Company, Inc. (New York), Sterling Products, Inc., and Winthrop Chemical Company, in the District Court of southern New York. This complaint charged that the contracts mentioned above were unlawful, and the "effect and result of the combinations, conspiracies and agreements . . . that have been to give to I. G. Farben, its subsidiaries, affiliates or assigns the exclusive right to manufacture pharmaceutical products for the South and Central American and Mexican trade . . . and otherwise to restrain interstate and foreign trade in pharmaceutical products."⁸ In the consent decree signed on September 5, 1941, the aforesaid contracts were declared unlawful and the defendants were enjoined from carrying out or enforcing any of the contracts or amendments thereof.⁹

⁵ This agreement may be found in *U. S. v. The Bayer Co., Inc. (New York)*, *Sterling Products, Inc., et al.* Complaint filed Sept. 5, 1941, pp. 15 ff.

⁶ *Ibid.*, p. 9. In 1945 Sterling regained the stock of Winthrop from the Alien Property Custodian.

⁷ These agreements are reproduced in *U. S. v. Alba Pharmaceutical Co., Inc. et al.* Complaint filed Sept. 5, 1941, pp. 44 ff.

⁸ *Ibid.*, pp. 10 ff.

⁹ *U. S. v. Alba Pharmaceutical Co., Inc. et al.*, Consent Decree, filed Sept. 5, 1941, pp. 68 ff.

Another important agreement in the pharmaceutical field was that between E. Merck of Darmstadt, Germany (Darmstadt), and Merck & Company of New Jersey.¹⁰ As stated in the agreement itself, they had operated for many years "under conditions of mutual co-operation and respect for the rights of the other." This convention, called the "Treaty Agreement," provided for the allocation of markets between the two companies in which the trademark "Merck" might be used exclusively—Merck & Company was to have the United States and its dependencies and Canada while Darmstadt was to have the rest of the world except for Cuba, the Philippines, and the West Indies, where they were to sell jointly. This trademark was to be applied to a number of pharmaceutical products (some four hundred) and processes specified in the agreement itself. There were other provisions in regard to exchange of patents, information, and experience regarding the processes for the manufacture of products now undertaken by both parties. They even agreed to report as fully as possible with respect to raw materials, conditions of markets, inventions, and other general information which, in the opinion of either party, might be useful to the other in the carrying on of their or its business. The agreement was to remain in force for fifty years beginning November 17, 1932.

On October 28, 1943, the Antitrust Division issued a complaint against E. Merck Chemical Works of Darmstadt and Merck & Company, Inc., of Rahway, New Jersey, accusing them of maintaining a cartel agreement in violation of the antitrust laws. The charges asserted that the two parties had restrained interstate and foreign trade by allocating territories for the sale of their products, had fixed uniform prices on certain specialty drugs, and had tried to induce buyers of its chemicals and pharmaceuticals to refrain from exporting from each other's territory.

Many other pharmaceutical products were undoubtedly the basis of individual agreements or parts of broader agreements. IG and *Hoffmann-La Roche, A. G.*, a Swiss concern, had an agreement pertaining to salvarsan, neosalvarsan, and silver salvarsan.¹¹ Another agreement between IG, *Société des Usines Chimiques Rhone-Poulenc* of Paris, and others, regulated the sale of piperazine.¹² Laurence

¹⁰ Merck & Co. is not only the largest manufacturer of pharmaceuticals in the U. S., including synthetic vitamins, narcotics, quinines, certain sulfonamides, arsenicals, citrates, iodides, mercurials, and atabrine, but also produces industrial chemicals, including photographic laboratory and analytical chemicals and agricultural specialties.

¹¹ Bone Committee, *Patent Hearings*, Part 5, p. 2337.

¹² *Ibid.*, p. 2339.

Ballande mentions that a gentlemen's agreement was arrived at in 1934 between two French and one German firm fixing quantities and prices of the sale of sparteine.¹³

PHOTOGRAPHIC MATERIALS

The production of photographic film and materials has been generally considered a branch of the chemical industry, and hence it was subject to international marketing controls resembling those found throughout the chemical field. Photographic chemicals are mainly of the coal-tar synthetic type.

Marketing controls were based on patent agreements and technological experience. They related to the chemical ingredients or processes used in making film. ICI and Du Pont exchanged patents and technological information on photographic chemicals but not on films.¹ Agfa-Ansco Corporation was organized in 1929 to produce photographic materials in the United States. It merged in 1939 with General Aniline & Film Corporation, an affiliate of I. G. Farben. The latter is said to manufacture about 15 per cent of the photographic materials sold in the United States. The Antitrust Division of the Justice Department has charged in a complaint that General Aniline & Film and Agfa-Ansco had agreements with I. G. Farben to restrict competition in the production, manufacture, distribution, and sale of photographic materials and developers. It alleged that photographic developers were made solely by IG but sold only through Agfa-Ansco (and only to General Aniline & Film after the merger). It was further stated that these companies divided the world's markets on cameras, photographic films, and photographic materials or products, the United States companies agreeing not to export from the United States.²

¹³ *Ententes*, pp. 56 f.

¹ Bone Committee, *Patent Hearings*, Part 5, p. 2313. Du Pont also had an agreement with the English firm of Ilford, Ltd., by which information and licenses were exchanged in regard to chemical compounds for sensitizing, stabilizing, and preserving photographic film. Du Pont had an option from the *Pathé Cinema S. A.* in Paris covering the right to manufacture moving picture film.—*Ibid.* Concerning the use of acrylic resins in the photographic field and pertinent market restrictions, see Bone Committee *Patent Hearings*, Part 2, pp. 672 and 758.

² *U. S. v. General Aniline & Film Corporation, et al.*, Complaint, filed Dec. 19, 1941. Bell & Howell, an American manufacturer of photographic equipment and accessories, had a patent agreement with I. G. Farben concerning spools for photographic film.—(Bone Committee, *Patent Hearings*, Part 5, p. 2347.) Imports to the United States of photographic chemicals in 1936 were estimated to be 51,583 pounds at a value of \$119,162, nearly all of which came from Germany, according to U. S. Tariff Com., *Dyes*, p. 93.

QUININE

Quinine is a crystalline alkaloid extracted from cinchona bark (often called Peruvian bark). Quinine is a general antipyretic; however, it owes its importance to its use as a prophylactic and as a remedy against malaria. Though there are synthetic substitutes such as atabrine, genuine quinine is justifiably preferred.

The bulk of the world's production of cinchona bark originates in Java and is used chiefly for the manufacture of quinine. European and American drug manufacturers for a long time have separated quinine sulphate from the other cinchona compounds for commercial use. The Dutch East Indies also has some facilities for preparing quinine salts. In 1939 it exported some 360,000 pounds of quinine as well as 14,000,000 pounds of cinchona bark.

The production and sale of cinchona bark has been dominated by the government in Java not only in its capacity as the representative of public interest but also as an owner of about 10 per cent of the cinchona plantations. The government prohibited the exportation of cinchona seeds. Furthermore, when people not connected with the Association of Cinchona Producers started to grow and to export cinchona bark in 1934, the government prohibited the extensions of cinchona plantations within the Netherlands Indies itself and established a license system according to which the quantity of cinchona bark and quinine exports were regulated by the discretion of the government of the Dutch East Indies.

The problem of the adequacy of quinine supplies was often discussed in the Health Organization of the League of Nations, but no measures were ever taken to ensure sufficient quinine stocks. Whereas many official and unofficial circles bitterly complained that literally millions of people suffered because of inadequate quinine supplies, the quinine market was described thus by a competent author: "In spite of the various measures taken by the Association of Cinchona Producers in Netherlands India, in order to limit production, the consequences of an over-production of cinchona have become more and more evident. The production of cinchona bark is twice as large as the consumption."¹ Under the pressure of complaints that there was no adequate mechanism providing for an adequate supply at reasonable prices, the Association of Cinchona Producers offered in 1931—according to a report of C. G. H. Rothe—to the Health Section of the League of Nations 500,000 kilograms of quinine salts at a price of

¹ See C. G. H. Rothe, "Commodity Control in Netherlands, India and Holland," *Commodity Control*, p. 293.

20 guilders (instead of 35.50 guilders) on condition that this quantity would not be sold on the ordinary market but would be supplied to natives in malaria-infected countries. The League did not accept that offer.² Though there is no doubt that such a distribution could have been effected only by the governments of the countries concerned, the circumstances of this offer and its "non-acceptance" seem mysterious. This writer did not succeed in clarifying the mystery because the pertinent documents of the League are not available. For years there have been advanced two diametrically contradictory opinions. The quinine interests claimed that there was sufficient quinine produced but that the respective governments should place orders for large quantities long in advance. On the other hand malariologists claimed that the production was artificially restricted by public and private agencies in order to keep prices high and exclude outsiders from competition.

From the point of view of marketing controls two cartel organizations must be considered. The first of these is the Association of Cinchona Producers who controlled with approval and co-operation of their government the production and export of cinchona bark from Java and Sumatra. The second is the marketing organization of the producers of quinine salts. These two organizations obviously co-operated.

At the end of the nineteenth century German and Dutch manufacturers of quinine salts organized a buying cartel to press down prices of the raw material.³ A counter attack by the domestic interests against the European cartel was launched by the establishment of a quinine factory in Bandoeng, Java. Violent price movements took place from 1884 to 1904 and as a result the price was greatly reduced.⁴ In 1907, under the auspices of the government the first attempt was made to set up a comprehensive organization of cinchona bark producers. The Association of Cinchona Producers gradually extended its membership all over Java and established a branch office in Amsterdam. The main purpose of the agency was to reduce production to half the capacity and to limit new plantings. The government supported the organization by the introduction of an export license system. On July 15, 1913, the Dutch Government established in Amsterdam the so-called Kina Bureau. This agency represented the Association of Cinchona Producers in Java as well as the Dutch

² Rothe, *op. cit.*, p. 295. This report was confirmed to this author by the Board for the Netherlands Indies in New York.

³ Rothe, *op. cit.*, p. 294.

⁴ According to Borkin and Welsh, *Master Plan*, p. 171, "It has been estimated that about 50% of the bark produced was burned in some years."

manufacturers of quinine salts. The Bureau was administered by five delegates of cinchona producers and five delegates of manufacturers of the drug with an impartially elected chairman. The Kina Bureau agreement was extended several times with minor changes up to the Second World War. The Kina Bureau fixed prices for sulphate of quinine, and governments and welfare institutions were permitted to take large discounts. The gross receipts were divided between the plantation owners, who received 60 per cent, and the manufacturers, who received 40 per cent.

A special organization of the manufacturers of quinine salts was established in 1931 with headquarters in Amsterdam. This organization was connected with the Kina Bureau, though legally it was a separate organization. Members consisted of three German firms, four French firms, one English, three Dutch, and one Swiss firm. According to Laurence Ballande two American manufacturers adhered to the agreement through the "Buramik."⁵

Corwin Edwards maintains that the cartel up to the Second World War had allowed two American manufacturers to import no more than the domestic requirements of quinine to the United States, and that they had also been forced to refrain from exporting. Only two firms (presumably the Merck Company and the Mallinckrodt Company) were allowed to participate in the manufacture of quinine salts in the United States. Retail prices were also fixed by the cartel. According to the same author the cartel bought up the cinchona bark supplies of Latin America in order to prevent these supplies from becoming available to the United States and thus disturbing the American market.⁶

Production of certain quinine preparations was subject to agreements between American and German firms.⁷

In 1928 the United States Government brought accusations against the manufacturers operating under the Kina Bureau agreement, especially the *Amsterdamsche Chininefabriek*, alleging that the defendants had combined to restrain interstate and foreign commerce in the sale and importation of cinchona bark and quinine derivatives in the United States by price fixing, resale price maintenance, price dis-

⁵ *Ententes*, p. 54. J. Anton de Haas mentions that cartel agreements between American manufacturers and the cartel existed.—*International Cartels in the Postwar World*, pp. 36 f.

⁶ Kilgore Committee, Subcommittee on Mobilization, *Monograph No. 1*, p. 45. According to newspaper reports present supplies of quinine are coming directly from Bolivia to the United States and are estimated at 40 tons a year.

⁷ Bone Committee, *Patent Hearings*, Part 5, p. 2333.

crimination, and boycotting. A consent decree was entered into on September 20, 1928, which was binding upon the various European defendants, enjoining the further operation of the agreement. On March 2, 1929, the majority of American defendants also accepted the consent decree.

Several attempts have been made and are still being made to find synthetic substitutes for quinine. The most valuable of these up to the time of the war was atabrine. The greatest drawback in the use of synthetic drugs has been that their use must be strictly supervised. This is particularly serious in the case of malaria because quinine can be given freely to natives whereas the synthetic substitutes cannot. Atabrine is produced in the United States exclusively by the Winthrop Chemical Company, which has been accused of charging exorbitant prices because of its cartel arrangement with I. G. Farben.⁸

In addition to atabrine and plasmochin, a new synthetic product has been reported which is supposed to duplicate the chemical structure of quinine, but no human nor animal tests have yet been undertaken.⁹

SACCHARINE

Artificial sweetening agents are manufactured by several methods and are used as substitutes for sugar.

In 1930 an international cartel for artificial sweetening agents was established with the participation of Germany, France, Switzerland, and Czechoslovakia. It was to remain in force until the end of 1945.¹ The adherents fixed uniform prices and quotas for exports. They also established a joint selling agency, the *Verkaufsstelle des Internationalen Süsstoff Syndikats G.m.b.H.*, at Hamburg to administer the agreement. The *I. G. Farbenindustrie* obligated itself not to enlarge its capacity for producing saccharine.²

SODIUM CHLORATE

Sodium chlorate is obtained from sodium chloride and caustic soda. It is a powerful oxidizing agent and is used in match compositions and some explosives.

An international sodium chlorate cartel was concluded in 1931 between exporters of Switzerland, Sweden, Italy, Germany, France, and

⁸ Committee on Military Affairs, *Monograph No. 1*, p. 13.

⁹ *Philadelphia Record*, May 4, 1944.

¹ The firms participating are listed in Bone Committee, *Patent Hearings*, Part 5, p. 2338, and *Czechoslovak Cartel Book*, p. 255.

² Bone Committee, *Patent Hearings*, Part 5, p. 2338.

Czechoslovakia. It set up export quotas and regulated prices and sales terms. It was extended several times, the last time at the end of October, 1938, for one year.¹

SULPHURIC ACID

Sulphuric acid is produced from a variety of raw materials such as sulphur and pyrites, and according to many intricate processes. The largest outlet for sulphuric acid is the fertilizer industry. Other industries consuming large amounts are petroleum refining, chemicals, coal products, iron and steel, explosives, rayon and cellophane, and many others. The importance of sulphuric acid in the industrial life of a country is generally conceded to be greater than that of any other chemical commodity. It should be mentioned, however, that the trend of chemical research is toward finding methods of chemical manufacture which will make sulphuric acid unnecessary.

Since sulphuric acid is a relatively cheap and corrosive liquid that requires special handling in tank cars or tank wagons when shipped in large quantities, whereas its raw materials can easily be transported, international trade is relatively insignificant. For the most part, location of the plants depends on the various nearby demands for sulphuric acid, although in some cases where it is produced as a by-product other commodities are developed which use the acid in the process of manufacture. Only a few of the many large producers of sulphuric acid manufacture a large number of additional products. Theodore Kreps in *The Economics of the Sulphuric Acid Industry* states that "None of them (the producers) do business under the same conditions, and as far as sulphuric acid is concerned none of them in any given market ordinarily depart from the price more or less tacitly agreed upon and maintained."¹

Not much sulphuric acid is exported (less than one per cent in the case of the United States). One International Convention for the Sale of Sulphuric Acid, however, was listed in *Polish Cartel Statistics* as existing in 1938. It was established in 1930 with members in Poland, Czechoslovakia, Germany, and Austria. It also provided for home market protection.² This might be termed a regional cartel.

The production of sulphuric acid was probably influenced to some

¹ Bureau of Foreign and Domestic Commerce, *World Chemical Developments, 1938*, p. 79; TNEC, *Monograph No. 6*, p. 268; *Czechoslovak Cartel Book*, p. 280; Bone Committee, *Patent Hearings*, Part 5, p. 2345. See also the discussion of chlorate of potassium, *infra*, p. 373.

² Stanford University, 1938, p. 215.

³ *Polish Cartel Statistics*, p. 85; see also Kreps, *op. cit.*, p. 85.

extent by international patent agreements such as that between IG and Standard Oil.³

SYNTHETIC RESINS

In fairly recent years synthetic resins began competing with natural resins such as colophony, copal, shellac, and so forth. Synthetic resins possess properties distinct from those of natural resins. The term plastics is sometimes used to designate synthetic resins, although actually the term is more inclusive. Synthetic resins embrace two main types, thermoplastic and thermosetting, but thermosetting materials are thermoplastic at some stage of their existence. However, after one application of heat and pressure they become hard and infusible. Thermoplastic materials may be reformed under heat and pressure. Commercially important synthetic resins are made directly or indirectly from coal.

Many international agreements were in effect between the related industries—they refer to domestic market protection, exchange of patents, and technological experience, especially between German, British, and American producers. However, the volume of international trade in synthetic resins was not very large, the main exporters being Germany and Great Britain. The United States has exported appreciable quantities to Central and South American countries in recent years.¹

One agreement, or rather one series of agreements, in this field will serve to illustrate a type of marketing control in plastics. It relates to that class of resins called acrylic resins, of which the best known is methyl-methacrylate. To the layman this is known as "lucite" or "plexiglas," a glass substitute. Five firms, two American, one English, and two German, manufacturing or developing processes in methyl-methacrylate, formed a marketing control according to charges by the Antitrust Division.² The agreement focused on two firms, Röhm & Haas of Germany and of the United States. The Röhm & Haas Company of Philadelphia and the Röhm & Haas Com-

³ Reference to these agreements may be found in Bone Committee, *Patent Hearings*, p. 2349.

¹ U. S. Tariff Commission, *Synthetic Resins and Their Raw Materials*, Report No. 131, Second Series, 1938, pp. 10, 76, 79, 80. According to this report, American producers of tar-acid resins are affiliated with concerns in Germany, the United Kingdom, France, Italy, Canada, and Japan. American producers of urea resins had agreements with producers in Great Britain.

² See also Bone Committee, *Patent Hearings*, Part 2, pp. 663 ff., and Kilgore Committee, *Mobilization Hearings*, Part 1, pp. 8-28. On June 20, 1945, the U. S. District Court of Newark, N. J., acquitted Röhm & Haas and Du Pont of criminal charges brought according to antitrust laws.

pany of Darmstadt, Germany, are the result of a former partnership of Dr. Röhm and Mr. Haas in Germany. Mr. Haas came to this country in the early 1900's and set up a company to exploit their chemical interests here. The two companies later became financially independent of each other, though relationships remained close up to recent years. In 1927, a written agreement was made between the two companies formulating previous informal arrangements. It applied to all the commodities manufactured by the two firms as well as to any other products to be developed in the future. It provided for a territorial division of markets throughout the world and specifically stated that the two companies agreed "not to compete directly or indirectly with each other."³ It was to remain in force up to April 30, 1937, and for five years thereafter unless cancelled prior to April 30, 1936.

On October 30, 1934, I. G. Farben, which had done considerable research in the acrylic field, made an agreement with the two Röhm & Haas companies setting up a cross-licensing patent pool by which IG agreed not to market acrylic acid products for use in laminated glass nor to market or use methacrylic acid products as glass substitutes. The Philadelphia firm agreed not to use the contract products for the preparation of photographic articles, celluloid-like masses, dye-stuffs, artificial rubber, pharmaceuticals, and abrasives. This contract was to extend to June 13, 1940.⁴

On March 30, 1936, ICI entered into an agreement with the Darmstadt Röhm & Haas Company concerning cast sheets of polymerized methacrylic acid. This did not include blocks, rods, film, or tubes. The agreement provided for a division of international markets partly exclusive and partly non-exclusive. In the non-exclusive territories the two companies were to agree on prices.⁵ Naturally these territories took into account prior external commitments of both parties so that, as a result, only that part of the world, outside Canada, the United States and its possessions, was open for division of markets.

Pursuant to the ICI-Du Pont agreement of 1929, Du Pont had received the exclusive American rights under the so-called Hill Patent relating to production of methyl-methacrylate. This brought Du Pont and Röhm & Haas into conflict over patents. On March 5, 1936, after extended negotiations Du Pont and Röhm & Haas of Philadelphia arrived at an agreement granting each other non-exclusive, royalty-free licenses under their patents relating to the acrylic and methacrylic

³ This agreement is reprinted in Bone Committee, *Patent Hearings*, Part 2, p. 748.

⁴ *Ibid.*, p. 749.

⁵ *Ibid.*, pp. 693 and 829.

field except those for laminated glass or those relating to polymers containing acrylic acid. The agreement was to remain in effect until the expiration of the last patent.⁶ Mr. E. V. Huggins, legal adviser to Röhm & Haas, stated before the Bone Committee on Patents that the two companies did not fix prices. In his opinion, Röhm & Haas was the price leader and the identical prices charged by the two companies were a result of Du Pont's following the price schedule announced by Röhm & Haas.⁷

Another agreement in 1939 between Röhm & Haas and Du Pont provided for cross-licensing on the process patents used in the manufacture of methyl-methacrylate cast sheeting and limited Du Pont's production of it to about one-half of the monthly average of Röhm & Haas.⁸ By the end of 1940, Du Pont's capacity was insufficient to meet the demands of orders in this field, so the company asked Röhm & Haas to lift the production restriction, and threatened that if the Philadelphia company refused, Du Pont's representatives would inform the government of the licensing restriction.⁹

Although Röhm & Haas had produced cast sheets of plexiglas in 1936, 1937, and 1938, Du Pont did not begin producing lucite cast sheets until late 1938 or early 1939. These agreements assumed more importance under the threat and impact of war because this material is light-weight, clearer-than-glass, and can be employed to great advantage as a substitute for glass in airplanes and other war supplies.

SYNTHETIC RUBBER

Apart from the International Rubber Cartel, international marketing controls have existed with regard to synthetic rubber. These controls were not based upon the export or import of synthetic rubber itself but upon marketing restrictions concerning patented processes and technological know-how. Rubber companies have played only a minor part in the synthetic rubber controls.

Synthetic rubber was produced even before the First World War but only in inferior grades. After the First World War, it again became the object of extensive research. Synthetic rubber was marketed in the United States by Du Pont as duprene, later called neoprene, by Dow as thiokol, and in Germany as oppanol by I. G. Farben. Any international marketing arrangements concerning them were of minor importance because the articles were insignificant. When the chief sources of supply of natural rubber were threatened and then actually cut off, the problem of building sufficient capacity to make synthetic

⁶ *Ibid.*, p. 819.

⁸ *Ibid.*, p. 836.

⁷ *Ibid.*, pp. 905 f.

⁹ *Ibid.*, pp. 701 f.

rubber was thrown into the limelight and became a source of much confusion and controversy. This controversy was based on the allegation that had not international marketing controls restricted the development and the technical knowledge of synthetic rubber, the national defense program of the United Nations would have been better served. This accusation was attacked by the leading executive of the American participant who with great pathos stated that the accusation levied against the Standard Oil Company "is a jerry-built house. And the foundation of sand upon which the whole thing rests is the assumption that the executives of Standard Oil—representing a typical cross-section of America, some veterans of the last war, some now in the armed forces, some with sons now in our Pacific and Atlantic expeditionary forces—have for one single minute forgotten that the life-long policy of every American is first, last, and always to put almighty America above any consideration of the almighty dollar."¹ Jersey itself had developed a synthetic rubber called butyl rubber which, though practical for some purposes, did not seem to be a good substitute for the heavy-duty rubber needed in tires. The buna rubbers developed by IG seemed to be better for rubber tires. These are made from a raw material called butadiene, which can be produced from coal, alcohol, or a petroleum base. The Russians are reputed to manufacture synthetic rubber from an alcohol base. IG held a number of patents on various processes for producing butadiene.

Negotiations began in 1927 between Standard Oil and I. G. Farben on the methods of manufacture of synthetic rubber. In 1929, as part of a much larger general understanding, a written agreement by which the two parties promised to exchange patents and technological experience was formulated.² Licensing problems involving other parties were to be ironed out between them. In September, 1939, a modification of the 1929 agreement, called the Hague Memorandum, assigned all the rights in buna rubber to the Joint American Study Company (Jasco), the company owned jointly by IG and Standard Oil.

Negotiations between Du Pont and IG took place in the early part of 1934 in regard to joining forces on the production of synthetic rubber, but these conferences never resulted in formal agreement.³ Apparently, however, Du Pont was to be notified of impending or actual developments in artificial rubber in the United States.⁴

¹ Bone Committee, *Patent Hearings*, Part 9, p. 5084.

² The 1929 agreement can be found on p. 513, *infra*, and in Truman Committee, *National Defense Hearings*, Part 2, p. 4561. The latter volume contains frequent references to this agreement and to interpretations of the agreement.

³ Bone Committee, *Patent Hearings*, Part 4, p. 545.

⁴ *Ibid.* p. 555.

The post-war marketing of rubber, both synthetic and natural rubber, will involve tremendous readjustments. The political implications are far-reaching. There are large synthetic rubber plants in the United States, Germany, and Russia, practically all of which at the present time are government-owned or government-controlled. In the United States in particular the problem of transferral of plants to private control is already a controversial question. Executives of Du Pont and Standard Oil among others have declared that synthetic rubber cannot compete freely with natural rubber.⁵ President Roosevelt had taken a stand against erecting tariff barriers to protect the synthetic industry, arguing that tariff would result in consumers paying 50 per cent more for their automobile tires.⁶ It has been suggested that a specialized market for synthetic rubber may prove the most feasible solution.⁷

As mentioned in the discussion of natural rubber, a conference has been planned in London between the Americans, British, and Dutch in what is termed "exploratory discussions." Consideration will be given to setting up a committee to survey the natural and synthetic rubber situation with a view to finding some solution for this post-war problem. American rubber manufacturing interests will be included in the American delegation.⁸

TITANIUM COMPOUNDS

Titanium is produced from a mineral called ilmenite, which is chiefly found in India. Titanium compounds are used extensively in the paint industry, and some of its derivatives are used as bleaching and reducing agents.

While the element itself is abundant, no commercially practicable processes for production of titanium pigments were developed until about the time of the First World War. It has already replaced white lead and lithophone in a large part of the market. By means of patents and licensing agreements the production and sale of titanium pigments has been regulated. The restraints practiced by the members of the international group were so tight as to constitute control of the international market. The description of these control mechanisms is principally based on congressional investigations in the United States of America.

⁵ See *The New York Times*, Dec. 2, 1943, p. 41; Truman Committee, *National Defense Hearings*, Part 2, pp. 4409 ff.

⁶ *The New York Times*, October 15, 1943.

⁷ *Ibid.*, Dec. 2, 1943, p. 41.

⁸ *Business Action*, July 31, 1944, p. 7.

By 1920, three independent groups had patented processes for producing titanium pigments. One of these was the Titanium Pigment Company (United States), subsequently absorbed by National Lead Company in the United States. The second was Titan Company A/S, organized in Norway. Eighty-seven per cent of its stock was acquired by National Lead Company in 1927. The third was the Blumenfeld interests in France.¹

The first international agreement was made in 1920 between the Norwegian and American groups effective July 30, 1920. It was to extend to 1936 and to be automatically renewed for ten-year periods unless terminated by a five-year notice. The agreement covered exchange of exclusive licenses and know-how and allocated the world's markets between the two countries with the exception of South America, which was to be common sales territory. Any sub-licensees were bound to adhere to this agreement. In 1927, a company called *Titanengesellschaft* was organized in Germany in conjunction with I. G. Farben to operate in certain European territories. In 1929, the National Lead Company and the Norwegian interests organized a holding company in the United States called Titan Company to be in charge of their foreign interests.²

The Blumenfeld interests transferred their patents to a company called *Société des Produits Chimiques des Terres Rares*, which sold or licensed them. In 1931, Du Pont obtained the Blumenfeld patent rights through its acquisition of Krebs Pigment and Color Corporation. An agreement dated January 1, 1933, provided for co-operation between National Lead Company, I.G. Farben, and Du Pont by price fixing and division of markets. The British market was regulated by setting up a company, to be jointly owned by Titan Company, Inc., of the United States (49 per cent of the stock) and three British companies (51 per cent of the stock ownership). One of these companies was ICI. The principal contract between Titan Company and British Titan Products concerning this product was to run until 1963. Arrangements in connection with Canadian Industries, Ltd. (CIL), the largest chemical concern in Canada, owned jointly by ICI and Du Pont, were made to share the Canadian market. The cartel operating through *Titangesellschaft* with a Japanese company, and Blumenfeld's French company set up an operating company called *Titan Kogyo Kobushiki Kaisha* to manufacture titanium products in Japan.³ An agreement

¹ Kilgore Committee, *Mobilization Hearings*, Part 7, pp. 962 f.

² Berge, *Cartels*, p. 129.

³ Kilgore Committee, *Mobilization Hearings*, Part 7, pp. 965 ff.

between Czechoslovak and French interests is officially registered as of January 1, 1925.⁴ Several auxiliary business agreements were consummated which helped to reinforce the operation of the cartel. There appears to have been no price competition among the members. The American members, in fact, have been indicted by the Antitrust Division on one count—that prices were “exorbitant” in relation to the cost of production and to what allegedly would have prevailed had there been competition.⁵

This cartel was significant also in that most of its members were members of other cartels related to this product. Lithopone, for example, which had been produced in large quantities by at least two of the cartel members, was protected by a price differential—that is, the price of titanium pigment was arbitrarily fixed above lithopone so that lithopone could be sold. The cartel was accused of buying off potential competitors to maintain its market status.⁶

VITAMIN D

The use of vitamin D processes and products came within the scope of a collective marketing control which was based upon the so-called Steenbock patents. These latter were process patents by which certain substances called pro-vitamins could be activated or irradiated so as to result in a high degree of potency of vitamin D. Pro-vitamins are sterols which may be obtained from either vegetable or animal sources and which take on antirachitic properties when irradiated with ultra-violet light. The Steenbock patents were held by the Wisconsin Alumni Research Foundation.¹

The licensing policy of the Foundation divided the uses of the process into separate fields so that each licensee was permitted to use the process only within a limited area of activity. For example, the pharmaceutical licensees were permitted to activate ergosterol, another licensee to activate cereals, another to activate graham crackers, but

⁴ *Czechoslovak Cartel Book*, p. 250.

⁵ Kilgore Committee, *Mobilization Hearings*, Part 7, p. 960.

⁶ Bone Committee, *Patent Hearings*, Part 5, pp. 2265, 2338; Military Affairs Committee, *Monograph No. 1*, p. 38; *The New York Times*, June 29, 1943, discusses the indictment of the Titan Company, Inc., a subsidiary of the National Lead Company as well as Du Pont and others on charges of participating in a world-wide titanium cartel. See also the report of Mr. Wendell Berge in the Kilgore Committee, *Mobilization Hearings*, Part 7, 1944. See also *Minerals Yearbook*, 1939 (1940), pp. 752 ff., 770.

¹ Kilgore Committee, *Mobilization Hearings*, Part 6, pp. 739 ff. Mr. Wendell Berge, who testified before the Committee on behalf of the Antitrust Division, said that the Department of Justice would bring a complaint for violation of the Sherman Antitrust Act against the Wisconsin Alumni Research Foundation if the private suit in which the Foundation is a party did not result in breaking up the monopoly.—*Ibid.*, p. 741.

not cookies, another to activate fluid milk, etc.² One of the most curious licenses was issued to activate milk by feeding cows irradiated material.³

Although some 200 drug firms exist in the United States, only five of them were granted United States licenses pertaining to the use of the patents in the pharmaceutical field by the Foundation.⁴ In the latter field, the licensees were permitted to produce vitamin D from ergosterol, which was marketed chiefly as cod liver oil with viosterol and drisdol (a trade name used by Winthrop Chemical Company). Minimum prices were agreed upon for these three products.⁵ The German firm of I. G. Farben had done similar work in this field of irradiation. It made an agreement (in conjunction with its subsidiary, Winthrop Chemical Company of the United States) with the Wisconsin Foundation by which it received an exclusive license for Germany. Home market protection was also included. Joseph Nathan & Company of Great Britain received a license for certain British territories.⁶

Prior to 1936 Du Pont had recognized the importance of the animal sterols cholesterol and 7-dehydrocholesterol. In the agreements of November 15, 1935, between Du Pont and the Foundation, Du Pont was granted an exclusive license to irradiate poultry feed (which had been the company's primary interest when it entered into the original agreement in 1929) and also to irradiate products for incorporation into breadstuffs. It was also given a license to produce vitamin D from irradiated cholesterol or its derivatives for human consumption but only for sale to the pharmaceutical licensees of the Foundation.

Alba Pharmaceutical Company of the United States and N. V. *Philips Gloelampenfabriken* of Holland obtained patents on their research relating to the production and use of animal sterols. Du Pont also entered into a licensing arrangement with the two Dutch firms to complete control of the animal sterol field.⁷ In 1937, discussions were held by I. G. Farben and Du Pont in regard to closer co-operation between Philips Company and them in this field, but these efforts were apparently fruitless.⁸

The Foundation exercised an amazingly rigid control over its licensees. In several of the agreements, prices, potencies, dosages, and container sizes were fixed by the licensees jointly while the Foundation acted as a supervisory body.⁹

² *Ibid.*, p. 746.

³ *Ibid.*, p. 747.

⁴ *Ibid.*, p. 751.

⁵ *Ibid.*, p. 918.

⁶ *Ibid.*, p. 745. See also Berge, *Cartels*, p. 88.

⁷ *Ibid.*, p. 765. The agreement of 1935 with Du Pont is printed on pp. 805 ff.

⁸ *Ibid.*, p. 913.

⁹ *Ibid.*, p. 747.

Some of the Steenbock patents were declared invalid in 1943 by the Circuit Court of Appeals for the Ninth Circuit.¹⁰ However, August 24, 1944, the same court took the unusual action of withdrawing its opinion of June 30, 1943, without explaining its action.¹¹

OTHER MANUFACTURED GOODS

ARMS, EXPLOSIVES AND MUNITIONS

Sales of arms, explosives, and munitions have been made, as a rule, not through the usual channels of trade but to governments themselves, who for obvious reasons did not wish to reveal to other countries the size and extent of their military purchases. One of the express goals of the peace arrangements following the First World War was disarmament and international supervision of this trade.¹ Accusations have been advanced that international agreements and international conferences which planned to reduce armaments were undermined by business concerns interested in manufacturing and selling armaments. There are, in fact, proofs to show that the provisions of the Peace Treaties relating to armament regulation in Germany, Bulgaria, and Austria were violated by production and export of armaments and explosives, in which firms of Great Britain, France, Italy, Belgium, and other countries participated. Such activities were almost openly tolerated by the respective governments. By 1924 it was clear to the governments of all the former enemies of Germany that Germany and other defeated nations were "secretly" re-arming and that Germany was about to take a leading role in the production and trade of certain militarily important materials and processes.² With great sincerity, the Special Committee on Investigation of the Munitions Industry of the United States Senate said in 1936, "There were apparently reasons why the Governments of Britain and France did not check Germany's violation of that treaty of which they were all signatories."³ Only the sincere and full disclosure of these reasons can yield an appropriate evaluation of the problem of armament and disarmament in the period between the two world wars. Such an investigation would probably shed some light on the political significance of propositions like those which are contained in Section 5, Article 8 of

¹⁰ *Ibid.*, p. 741.

¹¹ *The New York Times*, August 24, 1944, p. 20.

¹ See Manley Hudson, *Munitions Report*, Part 1, *passim*.

² *Munitions Report*, Part 3, p. 247.

³ *Ibid.*

the covenant denouncing the manufacture of war materials by private enterprise.

The manufacture of arms, explosives, and munitions has been, to a considerable extent, a vital part of the chemical industries of the world. Large chemical concerns directly or indirectly exercised control of this branch of industry because of the basic kinship of raw materials and the similarity of the produced commodities. In peacetimes, the great majority of explosives are used for industrial purposes. The business of making explosives, whether military or commercial, is essentially a chemical process. Indeed, the largest chemical concern in the United States was founded upon the manufacture of gunpowder and explosives. Various types or parts of rifles, ammunition, explosives, airplanes, etc., could serve sporting, industrial, and military purposes equally well, or could be easily converted from industrial to military use. Major K. K. V. Casey, director of sales in the smokeless-powder department of Du Pont, explained this relationship in the following way:

... there is a point up to which you might say both dyes, pharmaceuticals, photographic material, and so forth, and explosives or gases may be brought, that you would call the main trunk of the tree. When you reach that point, then they branch off on the one hand into the line of commercial material, such as dyes and other materials of that type, or, on the other hand, they may branch off into high explosive material or related material.⁴

Marketing controls in armaments and explosives were based on intercorporate arrangements and similar business connections, especially on the exchange of patents and technological experience. Since the First World War numerous international agreements have been made in the field of explosives.

Prior to 1914, the largest manufacturers of explosives were the Nobel group operating in Germany, Sweden, England, France, Austria, Hungary, Italy, and Norway. One of this number, Nobel, Ltd., of England, had developed, in the 1890's, rather close relationships with Du Pont and other powder factories in the United States. In 1897, the two (Nobel and Du Pont) entered into a formal agreement which was cancelled in 1907 because Du Pont feared it was contrary to the Sherman Act. The First World War naturally disrupted co-operative arrangements.

In 1919, Du Pont and the Explosives Trades, Ltd. (later Nobel Industries, Ltd.), which in 1926 merged with other companies to form

⁴ *Munitions Hearings*, Part 12, p. 2699.

Imperial Chemical Industries, arrived at an understanding on the sales of explosives, both commercial and military. In 1920, the companies signed a broad patents and processes agreement. The Antitrust Division of the Department of Justice, in a complaint filed January 6, 1944, has charged that this agreement merely reinforced a somewhat earlier understanding between ICI and Du Pont, by which they divided the world into territories for the sale of explosives, each promising not to interfere in or export to the other's exclusive market.⁵ Mr. Pierre S. Du Pont testified before the Senate Committee Investigating the Munitions Industry that this exchange of patents was not particularly significant in view of the fact that many of the patents had already been used by Nobel during the war and that this simply gave them a legal right to continue using the patents.⁶ The agreement of 1919 also related, however, to exchange of patents on explosives in the future. In this agreement and in many of the subsequent agreements, a provision was inserted to the effect that government objection or prohibition would be a valid excuse on the part of either party to decline to disclose such information or grant such licenses.

In a written agreement of July 1, 1928, superseding an agreement made on November 10, 1926, the two parties (Du Pont and ICI) divided their markets for military powders and explosives in Europe. They also divided the sales of products so that, for example, Du Pont received 70 per cent of the nitrocellulose powder business and ICI obtained 100 per cent of the nitroglycerine powder.⁷ The arrangement, made for ten years, was modified in 1932 in the so-called George White Memorandum, which did not touch upon the dual selling agency set up by ICI and Du Pont. It defined three sales areas (agreed upon sometime before): (1) South America, including Cen-

⁵ The Antitrust Division of the Department of Justice instituted proceedings against Imperial Chemical Industries, Ltd., Du Pont, and others, charging conspiracy in restraint of trade not only in explosives but other chemicals as well.

⁶ *Munitions Hearings*, Part 5, pp. 1088 and 1299.

⁷ This agreement has been printed in *Munitions Hearings*, Part 5, pp. 1300 f. The commodities were apportioned thus:

Nitrocellulose powders—Du Pont, 70%; ICI, 30%

Nitroglycerine powders—ICI, 100%

Trinitrotoluol and Tetryl—ICI, 70%; Du Pont, 30%

Nitrocellulose for propellant powders—ICI, 100%.

The sales office of Du Pont in Paris supervised the business transactions of Du Pont and ICI with France, Belgium, Holland, Denmark, Sweden, Finland, Estonia, Latvia, Lithuania, and Poland. The business transactions of both firms with Albania, Austria, Czechoslovakia, Yugoslavia, Rumania, Bulgaria, and Turkey were supervised by ICI's sales office in Vienna. According to the agreement, Du Pont and ICI do not exchange information concerning production and sales costs.

tral America and Mexico, (2) Europe, and (3) Asia. Du Pont's agents were to function in South America and Europe and ICI in Asia. While no predetermined division of products was made, the agreement declared that as a rule Du Pont would be the supplier of nitrocellulose powder and ICI the supplier of cordite.⁸ Subsequent modifications of a minor character were made. One of these concerned the understanding that on sales relating to the territories of Spain, Portugal, and Czechoslovakia, the Du Pont sales agent was to consult ICI because of its prior arrangements with the *Union Espanola de Explosivos* and the Czechoslovak Explosives, Limited.⁹ The agreement was terminated in 1936, that is, the dual agencies ceased to exist, although co-operation in the military field continued, at least tacitly. However, since the First World War, German companies have not been admitted to Anglo-American marketing controls relating to military explosives.

Relationships between ICI and Du Pont in regard to commercial explosives were much closer than in military explosives. On January 1, 1926, effective to July 1, 1939, a patents and processes agreement relating to industrial explosives and sporting powders was arrived at. This was superseded by the 1929 and 1939 agreements which were general chemical agreements but which applied to commercial explosives as well. Canadian Explosives, Ltd. (in 1927 renamed Canadian Industries, Ltd. (CIL), was organized as a jointly-owned chemical concern of ICI and Du Pont.¹⁰ On January 1, 1925, effective for 15 years, an agreement was signed with CIL covering an exchange of patents and technological information in Canada on explosives. A similar jointly-owned company, *Compania Sud Americana de Explosivos* (CSAE), was set up in Chile to manufacture industrial explosives.¹¹ Under date of January 1, 1926, a license agreement was drawn up but not signed between Du Pont and *Dynamit Aktien Gesellschaft* (DAG) and *Vereinigte Köln-Rottweiler Pulverfabriken* (both controlled by I. G. Farben), concerning exchange of patents on industrial explosives for the South American market. Because the agreement was not legally enforceable it has been called a "gentlemen's agreement." Commenting on the binding force of this agreement, Mr. Lammot Du Pont remarked: "We are guided by it; yes. We are not bound by it."¹² Shares in a new company, Explosives Industries, Ltd. (EIL) were divided thus: Du Pont and ICI to have 37½ per cent each and DAG, 25 per cent. This was organized as a

⁸ *Ibid.*, pp. 1302 ff.

¹⁰ *Ibid.*, p. 1331.

¹² *Munitions Hearings*, Part 12, p. 2790.

⁹ *Ibid.*, p. 1304.

¹¹ *Munitions Report*, Part 3, p. 224.

sales company through which Du Pont, ICI, and DAG sold their commercial explosives according to fixed quotas, chiefly in Argentina, Brazil, Peru, Uruguay, British Guiana, Dutch Guiana, Venezuela, Colombia, Ecuador, and Paraguay.¹³

An agreement relating to the exporting of industrial explosives was reached between DAG and *Aktienbolaget Bofors Nobelkrut* (a Swedish firm, commonly known as Bofors). Bofors agreed to limit exports to a certain quantity (330 tons of industrial explosives) and further agreed to dispose of this amount on the markets of South America. Since DAG was already connected with the other large concerns operating there, ICI and Du Pont, the agreement meant that Bofors was simply allowed a "cut-in" on the export market with the understanding that Bofors would not seek to expand its foreign business.¹⁴

There have been several agreements relating to arms, especially sporting arms. After Remington-Arms Company came under financial control of Du Pont, an agreement between Remington and ICI relating to sporting arms and ammunition was signed on August 20, 1935, effective until July 1, 1939.¹⁵

From 1920 up to the outbreak of the present war, a series of agreements was consummated between Colt's Patent Fire Arms Manufacturing Company of the United States, and *Fabrique Nationale d'Armes de Guerre* of Belgium. These were chiefly licensing agreements accompanied by clauses for division of marketing territory and price maintenance. They pertained to the so-called Colt guns-automatic pistols, machine guns, and rifles.¹⁶ A license agreement between Colt's and Vickers-Armstrong was in force until 1933, when various licenses were terminated. This included agreement as to territory and price and obligated the English firm to consult the Belgian firm in case of granting licenses to certain firms in Continental countries.¹⁷

An international munitions cartel was established in 1926, relating to cartridges and the machinery for making cartridges. It was comprised of German, Czechoslovakian, and Hungarian producers. This was a production cartel.¹⁸ Another agreement regulated exports of these commodities and protected home markets. To this organiza-

¹³ *Ibid.*, p. 1368; *Munitions Report*, Part 3, pp. 224 f. The products listed in the license agreement included black powder, disruptive explosives, smokeless propellants for sporting purposes, detonators, safety fuses, powder fuses, and additional devices for initial detonation or ignition. See Bone Committee, *Patents Hearings*, Part 5, p. 2264.

¹⁴ *Munitions Hearings*, Part 12, pp. 2802 ff. and 2879.

¹⁵ *Munitions Report*, Part 3, p. 225.

¹⁶ *Ibid.*, p. 236.

¹⁷ *Ibid.*, p. 235.

¹⁸ *Czechoslovak Cartel Book*, p. 453.

tion belonged companies in Czechoslovakia, Italy, Poland, Belgium and France.¹⁰ In 1933, a third agreement, aimed at preventing the establishment of new factories for manufacturing cartridges used in hunting and sports was effected. Belgium, England, France, Czechoslovakia, Spain, Hungary, and Germany were adherents. It was prolonged in 1937.²⁰ Another agreement regulated the exports and prices of percussion caps used in cartridges. This was drawn up in 1925 and prolonged in 1937 by producers in Belgium, Germany, Poland, and Czechoslovakia.²¹

ASBESTOS AND ASBESTOS-CEMENT

Exporters of asbestos-cement had an international organization with headquarters at Zurich.¹

Alfred Plummer mentions that an asbestos cartel containing members from ten European countries was formed under the leadership of Turner & Newalls of London.²

BATTERIES, ELECTRIC STORAGE

The two main types of electric storage batteries are the acid or "lead" type and the alkaline type. Alkaline batteries are usually of the nickel-iron or nickel-cadmium class. They are more expensive but last much longer (ten years or more) than the common lead batteries.

Storage batteries are used as a source of electrical energy for automobiles, trucks, airplanes, gun turrets, and many other machines.

The basic patents for producing these batteries expired about 1915. They were the foundation of previous international marketing agreements.

The leading manufacturer of this commodity is the Electric Storage Battery Company in Philadelphia. It has numerous intercorporate connections all over the world. It had marketing agreements in England with the Chloride Electrical Storage Company, Ltd., in Germany with *Accumulatoren-Fabrik Aktiengesellschaft*, and in Canada with its own subsidiary the Exide Batteries of Canada, Ltd. These agreements date back to 1891.

The Antitrust Division of the United States Department of Justice filed a civil complaint in May, 1945, against the Electric Storage Battery Company and its subsidiary Willard Storage Battery Com-

¹⁰ *Ibid.*

²⁰ *Ibid.*, p. 455.

²¹ *Ibid.*, p. 456.

¹ International Chamber of Commerce, *Document No.* 6484, 1938.

² *International Combines*, p. 271.

pany, charging that through international marketing agreements they prevented in the United States the production and sale of nickel-cadmium batteries, and the importations of other types of batteries also. Executives of American companies stated in newspapers that they were willing to cancel these agreements if they violated American laws.¹

BUTTONS (ARTIFICIAL IVORY)

Though it has no great significance an international cartel controlling the market of buttons—so-called Corozo buttons—is listed in literature. Switzerland, France, Italy, and Czechoslovakia were members of the agreement. The marketing control obviously had many outsiders and operated under great difficulties.¹

CEMENT

The raw materials for making cement are available almost everywhere, but the capital investment required to process cement is considerable.

Up to 1937 there existed in Europe many international cement cartels protecting the home markets of each member and restricting competition generally on certain export markets.¹

In 1937, the national cement cartels of Belgium, Denmark, France, Germany, the United Kingdom, Norway, Sweden, and Yugoslavia established a comprehensive international export cartel for Portland cement. A joint-stock company with headquarters in Luxembourg, called the International Cement Export Conference (Intercement), was set up as an executive agency. The cartel had understandings with marketing organizations in Holland, Egypt, Belgian Congo, and Czechoslovakia. The chief outsiders were Poland and Japan. Poland, however, was bound to the cartel by special agreements with several of the participants. The Japanese industry was considered too outworn to be a keen competitor. In addition to home market protection Intercement determined export quotas and minimum prices. One special activity of the cartel was to deal collectively with shipping companies and conferences as to freight rates.²

DENTAL SUPPLIES

Reliable sources list among collective marketing controls the international cartel for dental supplies which has members in Germany,

¹ Press Release of the Justice Department, May 16, 1945 and *The New York Times*, May 17, 1945, p. 21.

² Balande, *Ententes*, pp. 271 ff.; *Kartell-Rundschau*, 1937, p. 370.

³ Ballande, *Ententes*, pp. 274 ff. ⁴ *International Cartels*, No. 1 and 2, 1939.

England, France, Liechtenstein, Austria, Switzerland, Czechoslovakia, and the United States. It was established in 1923 for an indefinite period.¹

ELECTRIC CABLES

The marketing of cables and related products was controlled through international cartels which had general headquarters in Switzerland. The cartels embraced an almost complete line of wire and cable products, and maintained separate agencies for high-tension and low-tension cables. The control covered export prices and export quotas. In addition, within and outside the cartel organization, many licensing and cross-licensing agreements existed, especially with German and American companies. The Electric Research Products, Inc., a wholly-owned subsidiary of the Western Electric Company, for example, held licenses for several related products including cables.¹

The cartel agreement with reference to high-tension cables embraced Switzerland, Sweden, Spain, Austria, Poland, Norway, Germany, Finland, France, Holland, Italy, Denmark, Belgium, Czechoslovakia, and Hungary. Several of these countries adhered to the international agreement only in order to protect their domestic markets without intending to export. The low-tension cartel agreement covered the countries of Germany, Belgium, France, Austria, Norway, Czechoslovakia, and Hungary. England co-operated with both groups under special agreements. The same general stipulations as to selling and market protection in the other cartels applied also to this cartel.

Both international cable agreements were concluded in 1928 and prolonged September 17, 1930, until March 31, 1939. Afterwards they were again renewed for an indefinite period. A special company, the International Cable Development Corporation, was set up at Vaduz, Liechtenstein, to serve as an administrative agency for cartel financial transactions.

It is interesting to note that, despite a fairly strong organization, prices on the export markets were unattractive—the reason being that new plants could be established without great difficulties, and most countries saw to it that they did not have to depend on imports for reasons of national defense. In Central Europe there were close inter-

¹ *Czechoslovak Cartel Book*, p. 458; Friedländer, *Kartelle*, p. 342.

² Kilgore Committee, *Mobilization Hearings*, Part 4, p. 408. This reference also mentions the cross-licensing agreement between this American company and the Electric Wire and Cable Works, Ltd., of Osaka, Japan, from 1931 to 1941. See also Federal Communications Commission, *Investigation of the Telephone Industry in the United States* (House Document Number 340), 1939, p. 244.

corporate connections. Germany especially had far-reaching interests in many cable companies.²

INCANDESCENT ELECTRIC LAMPS

Incandescent lamps are composed of a glass bulb containing either a vacuum or inert gas. An electric current heats a filament of metallic wire or some non-metallic material to incandescence. Electric lamp bulbs may also be of the sodium vapor, mercury vapor, or neon type.

Much has been written about international controls in the marketing of electric lamps.¹ There was little secrecy about the organization and policies of these combinations in their international trade aspects. Though most of the business relationships among the national electric lamp industries were cartel-like, they were affected also by strong intercorporate ties. Two antitrust actions are pending against General Electric (GE), Corning Glass, and other American companies for violation of the antitrust acts. The actions are suspended for the duration of the war. The first action relates to incandescent and fluorescent electric lamps, frosted and unfrosted glass bulbs, tubing and cane, argon gas and tungsten for filaments, machinery for lamp bases and glass working. The second action relates to fluorescent lamps and electrical appliances and charges that the defendants are parties to the world-wide lamp cartel. General Electric Company directly and through its subsidiary, International General Electric Company (IGE), had intercorporate connections with the largest producers of electric lamps in England, France, Germany, Hungary, the Netherlands, Japan, China, Mexico, Brazil and Canada.² It is well known that American concerns did not export large quantities of electric lamps and that imports of electric lamps and bulbs to the United States remained very small.³ According to Wendell Berge, Assistant Attorney General, General Electric, Siemens of Germany, and Philips of Holland, etc., had "binding agreements apportioning world

² *Czechoslovak Cartel Book*, p. 125. See also *Polish Cartel Statistics*, 1935, p. 84.

¹ See William Meinhardt, *Entwicklung und Aufbau der Glühlampenindustrie* (Berlin), 1932. See also the description of the cartel in *Fortune*, Sept., 1942.

² U. S. Tariff Commission, *Incandescent Electric Lamps*, Report No. 133, Second Series, 1939, p. 58.

³ Cf. U. S. Tariff Com., *Incandescent Electric Lamps*, p. 60, and TNEC, *Monograph 21*, pp. 104, 105. There was considerable Japanese competition in miniature lamps used in flashlights, etc. In 1937, United States exports of incandescent electric lamps with metallic filaments amounted to 18,730,000 lamps with a total value of \$1,500,000. These exports went chiefly to British India, Cuba, the Philippines, and South America.

markets between the respective companies."⁴ It is not clear whether these agreements were a part of the general cartel or outside of it.

Technological progress was as rapid in the production of bulbs as it was in the material to be used as a conductor.⁵ The United States had a dominant share in the technological advances of the industry. The Corning bulb machine, and more recently the Pipkin invention for the inside frosting of the bulb, the patent for which was assigned to General Electric in 1928, are very important in producing bulbs. Moreover, there is a long series of other inventions and patents establishing American supremacy in this field. American producers also secured foreign inventions and patents through cross-licensing agreements which formed the basis of the business relationships in this international combination.

The history of the combination movement of the incandescent lamp industry is described in one of the cartel publications of the League of Nations.⁶ The Convention for the Development and Progress of the International Incandescent Electric Lamp Industry, set up before the First World War, was re-established in its present form on December 20, 1924, for a period of ten years and was revised and extended in 1935 for twenty more years up to 1955. The administration of the cartel was placed in a joint stock company chartered for that purpose in Geneva called "Phoebus" Industrial Company for the Development of Lightning, with a capital of 500,000 Swiss francs. According to the League of Nations' publication, the reason why it was established in Switzerland was "to ensure as far as possible independence of the divergent laws of the various countries."⁷ There is little doubt that the cartel was greatly influenced by the *Osram G.m.b.H.* in Berlin.⁸

The members of this convention were 38 producers from the following countries: the Netherlands, Germany, France, the United Kingdom, Italy, Hungary, Belgium, Czechoslovakia, Japan, Denmark,

⁴ Berge, *Cartels*, p. 237.

⁵ The efficiency of an electric lamp is measured in lumens per watt (LPW), which shows the quantity of light received from the unit of electric power. Whereas in the 80's of the last century the efficiency of a carbon-filament lamp was estimated to be 1.7 lumens per watt, the average efficiency of tungsten-filament lamps today is at least 14.7.

⁶ Benni, *et al.*, *Industrial Agreements*, pp. 55 ff.

⁷ *Ibid.*, p. 73.

⁸ A comprehensive agreement concluded October 7, 1938, between International General Electric and *Allgemeine Elektrizitäts Gesellschaft* refers to general agreements concerning electric lamps between IGE and Osram. See Bone Committee, *Patent Hearings*, Part 1, p. 233. Concerning the use of hardmetal composition see *Ibid.*, p. 282.

Austria, Sweden, Switzerland, Spain, Brazil, China, Poland, and perhaps others.

There were several outsiders to the cartel all over the world. In Japan, more than 40 per cent of the output was produced by the outsiders. However, most of the exporting entrepreneurs were cartel members. The principal exporters of electric lamps were the Netherlands, Germany, the United Kingdom, the United States, and Japan. The largest exporter, the Netherlands, supplied in 1937 about 25 million; in 1938, 21 million; and in 1939, 27 million electric lamps. The Japanese exports are given in Table 25.

TABLE 25
JAPANESE EXPORTS (IN THOUSANDS OF GROSS)

Year	Miniature lamps	Other lamps
1936	1847	335
1937	1740	449
1938	951	322
1939	675	392

The provisions of the cartel agreement made compulsory the exchange of all kinds of technological experience, including patents. Inventions and experience were seldom given free, however, but were subject to the usual license fees. There was an arbitration tribunal to settle both disputes among cartel participants and claims regarding infringements of patents. It consisted of three members: one, a Swiss university professor, as Chairman; two, a Swiss federal judge; and three, a Swiss expert on international cartels. The cartel participants were obliged to deposit a considerable sum as security with the Phoebus Company in order to make the administration of the agreement and the execution of the awards of the tribunal effective.

By the terms of the agreement, the participants were entitled to visit each other's laboratories and plants. A special laboratory was set up at Geneva to supervise technological developments on the products of participants and outsiders. A specific agency was established to carry on propaganda. No limitation was placed on the total output of members; only exports were limited by the allocation of sales areas and by export quotas. There were some limitations on the establishment of new plants in Europe. Fines and premiums were fixed for any excess or non-exhaustion of export quotas.

The administration of the agreement devolved upon several agencies. Votes were taken according to quota shares. Though, according to the agreement, the cartel did not interfere with actual price policies, in practice a special sales committee decided upon general price policies

and collateral terms. A special standardization committee of five technological and five trade experts was in charge of directing research in order to simplify manufacturing processes and to standardize lamps. In addition, there were other committees for administering the agreement. It is most revealing to compare the domestic lamp prices in lamp-producing countries. The price differentials reveal the influence of high tariff walls and the effectiveness of the home market protection of the cartel.

The cartel agreement, including patent relationships, is treated in a publication by the United States Tariff Commission.⁹

ELECTRICAL APPARATUS AND DIESEL ENGINES

Electrical equipment of any sort which relates either directly or indirectly to the generation, transmission, conversion, and distribution of electrical energy was produced by large and small firms all over the world. Most of the export business was carried on, however, by large firms. As used here, electrical apparatus includes such varied products as turbines, generators, heating devices, magnets, motors, refrigerators, vacuum cleaners, etc. Radio equipment and electric lamps are excluded from this discussion because they were subject to different marketing controls.

Although some competition existed on the international markets in this industry, the giant electrical firms of Great Britain, Germany, Italy, France, Japan, Belgium and the United States co-operated in dividing markets and in exchanging technological experience and patent licenses. This co-operation was facilitated by the many intercorporate connections among the companies. International General Electric of the United States, for instance, held substantial stock in large electric companies in Great Britain, Germany, Japan, France, Belgium, and Italy.

One of the earliest agreements in this field was made between Thomson-Houston International Electrical Company (the predecessor of General Electric) of the United States and *Union Elektrizitäts Gesellschaft* (a predecessor of *Allgemeine Elektrizitäts Gesellschaft*) of Germany in 1892. This agreement took the form of an exchange of patent licenses and information. Subsequently, in 1897 and 1909 similar agreements were made between the American company, General Electric (GE) and the French company, *Compagnie Française Pour l'Exploitation des Procédés Thomson-Houston* (called CFTH), the British firm, the British Thomson-Houston Company, Limited

⁹ *Incandescent Electric Lamps.*

(the predecessor of Associated Electrical Industries, Limited (AEI), and *Tokyo Shibaura Denki Kabushiki Kaisha* (sometimes referred to as Tokyo Shibaura) of Japan. This co-operation was disrupted by the First World War. In 1919, International General Electric was established as a subsidiary of GE to carry on the export and foreign business of that company. Beginning in 1919 and continuing for about three years, negotiations were carried on between IGE, AEG, AEI, CFTH, and Tokyo Shibaura. By 1922, a new set of agreements dividing the markets of the world and allotting exclusive territories to the participants in exploiting the patents received were concluded. Two more companies, the *Société d'Electricité et de Mécanique* (called SEM) and *Compania Generale d'Elettricità* (CGE) also made agreements with International General Electric at this time. The accords were amended or modified from time to time but not substantially altered. In the complaint against GE and IGE alleging conspiracy in violation of the Sherman Act and the Wilson Tariff Act, the Antitrust Division of the Department of Justice contended that the patent licenses fixing exclusive territories were used as a front for the allocation of sales of electrical equipment whether connected with trademark or patent license.¹ According to these agreements, the United States was the protected home market of GE; Germany, Austria, Danzig and Memel the protected territory of AEG; France, Spain, Portugal and Greece, the protected territory of CFTH; Great Britain and Eire home market of AEI; and Japan of Tokyo Shibaura; Belgium and Luxembourg of SEM; and Italy and Albania of CGE.

In a statement to the Press, Charles E. Wilson, President of the GE, declared that these agreements were submitted in 1922 to the Department of Justice and that, later, copies were furnished to the Federal Trade Commission which in turn rendered a report on them to the Senate in 1928.²

One might ask whether IGE participated in the above-mentioned agreements only in reference to her own export business. It seems likely that in these arrangements she represented most of the American exporters of electrical apparatus. This assumption is supported by the fact that she was a leading member in the Electrical Apparatus

¹ See Bone Committee, *Patent Hearings*, Part 1, pp. 232 ff., and Complaint in *U. S. vs. General Electric and International General Electric Company*, filed Jan. 18, 1945, in the U. S. District Court at Newark, N. J.

² *The New York Times*, Jan. 19, 1945, p. 11. Mr. Charles E. Wilson denied the substance of the charges of the Justice Department as far as they related to their restrictive effects.

Export Association organized under the Webb-Pomerene Act in 1931.

This company was supposed to co-ordinate the export activities of a large number of American companies. It was superseded in 1940 by the Electrical Export Corporation of which only IGE and Westinghouse Electric International Company were members. The Antitrust Division has likewise brought suit against Westinghouse Electric & Manufacturing Company and Westinghouse Electric International Company for violation of the Sherman Antitrust Act and the Wilson Tariff Act. The main charges in the complaint are based on a patent agreement between the above-mentioned American companies and two German companies, *Siemens-Schuckertwerke A. G.*, and *Siemens & Halske A. G.* This agreement of 1919 was said to divide market areas and to restrain competition between the American and German companies in regard to generators, transformers, switch gear, motors, and home appliances. Westinghouse vigorously denied the cartel charges of the Antitrust Division. It has been rumored in newspapers that the Antitrust Division is at present conducting an investigation of one or both of the Webb associations on the grounds that they co-operated with foreign groups in cartel arrangements.³

An agreement concerning aviation instruments between Siemens-Halske, a large German producer of electrical equipment, and Bendix Aviation Company of the United States has been mentioned in cartel discussions.⁴

It has been reported that restrictions were agreed upon in relation to Diesel engines, but as yet little information has become available on such agreements.⁵

ENAMELWARE

Producers of enamelware (enamelled iron) of Germany, Czechoslovakia, Austria, Hungary, and Poland who were engaged in the export business formed in 1926 a Central European Enamel Cartel and established headquarters in Berlin. The agreement set up a commercial company, the Association of European Enamel Works, as the administrative agency of the cartel. The cartel participants agreed upon export quotas, uniform prices, and uniform discounts.¹ Early in the thirties the cartel disintegrated as a result of severe competition, in particular from Japanese exporters who captured some of the markets from the Europeans. In 1935, a new agreement was

³ *New York Herald-Tribune*, Business Section, Feb. 11, 1945, p. 9.

⁴ Berge, *Cartels*, pp. 218 ff.

⁵ Bone Committee, *Patent Hearings*, Part 7, p. 3323.

¹ *Kartell-Rundschau*, 1936, p. 398.

reached between the exporters of Czechoslovakia, Poland, Yugoslavia, Austria, and Germany. The participants expected that this new cartel would be able to influence the international market and to raise prices.²

FELT

The felts in question here, which are not genuine felts but an impregnated, woven fabric, were designed for industrial use, particularly in the paper industry. Producers of these felts—some forty-one firms in Czechoslovakia, Germany, France, England, Austria, Switzerland, Belgium, Norway, Finland, Italy, and Sweden—established an export cartel in October, 1931. The cartel fixed uniform prices and divided exports according to quotas.¹

BOTTLE GLASS

The principle raw materials used in the manufacture of glass are sand, soda ash, limestone, and broken glass. Up to 1903 all kinds of glass containers, including bottles, were made by hand. In 1904 Michaël J. Owens, a glass blower, invented a fully automatic machine for the production of bottles. The International Glass Bottle Association was formed in 1907. According to Alfred Plummer, "Its chief object was the joint purchase of the rights to use the patents covering the Owens automatic bottle-making apparatus, whereby machine methods were substituted for the old glass blowing processes." Plummer remarks that "It was alleged that this combine tried to force non-combine firms to join by underselling them or threatening to do so."¹ According to an official report of the Balfour Committee on Industry and Trade, the cartel first tried to limit the use of Owens machines but then gradually extended the use of this machine.² An agreement was made in 1907 within the International Glass Bottle Association between British and Continental manufacturers to protect each other's home markets and to co-ordinate price policies. On the British side, the agreement was signed by the Association of Glass Bottle Manufacturers of Great Britain and Ireland. At the time Owens' first bottle machine was built in 1903, the Owens Bottle Machine Company was established to utilize the patents in the United States. The foreign rights were given to the Toledo Glass Company which established the Owens European Bottle Company for the utilization of these pat-

² League of Nations, *Circular E. 946*, June 5, 1936.

¹ *Czechoslovak Cartel Book*, p. 322.

¹ *International Combines*, p. 9.

² (Balfour), Committee on Industry and Trade, *Factors in Industrial and Commercial Efficiency* (London, 1927), p. 112.

ents in Europe. This company in turn sold all the European rights to the International Glass Bottle Cartel, or more precisely, to the executive agency of this cartel, the *Europäischer Verband der Flaschen Fabriken G.m.b.H.* in Düsseldorf.

Although American manufacturers were not members of the cartel, they continued to exercise influence through patents. The first Owens machines had used the so-called suction process. The Hartford-Empire Company began in the United States to develop gob-feeding machines for making glass containers in competition with the Owens type. Owens thereupon started to make gob-feeding machines as well. Interfering patent applications brought the companies into conflict and litigation. After some negotiations, a settlement was arrived at in 1924. The arrangement left Hartford in control of the gob-feeding field and Owens of the suction field.³ Hartford sold patents or machinery to glass companies in many different countries, but always with the stipulation that the buyer would not export the product nor the machines to the United States nor to countries where Hartford patents had already been taken out. Hartford-type equipment was used in England, France, Czechoslovakia, China, Japan, and several South American countries.⁴

In 1928 the relationship between the European cartel and the Owens group became strained and resulted in a lawsuit in which the European cartel claimed patent rights concerning the improvement of the original Owens patents. The litigation was settled in the United States Circuit Court of Appeals for the Sixth District. According to that agreement, a mutual protection of each sphere of interest was agreed upon and the Owens Company sold its European rights to the European cartel for a period beginning January 1, 1930, through December 31, 1939.

With the acquisition of the Owens rights, the European glass bottle cartel was rejuvenated effective January 1, 1930. A new executive agency was established under the name of *Internationales Flaschen Verkaufskontor G.m.b.H.* in Düsseldorf. The leading firm in this cartel was the *A. G. für Glasindustrie vormals Friedrich Siemens*. The export quota of this company within the cartel amounted to 29 per cent. In addition to the German participants, industries in Austria, Hungary, Rumania, Yugoslavia, Poland, Danzig, Holland and Czechoslovakia joined the agreement. It was to remain in force for

³ See decision in *U. S. v. Hartford Empire Co. et al.*, by the U. S. Supreme Court, Jan. 8, 1945.

⁴ TNEC, *Hearings*, Part 2, p. 431.

ten years unless the exportation of glass bottles by outsiders should amount to 10 per cent of the cartel's exports. In this case every participant could renounce the accord. The agreement further provided for mutual home market protection and for the pooling of exports except those to Italy. On January 14, 1936, Libbey-Owens established the *Compagnie Internationale pour la Fabrication Mecanique de Verres de Procèdes de Libbey-Owens (Mecaniverlux)* in Luxembourg. This company owns shares in several glass-producing companies in Spain, Belgium, France, and Germany.^{4*}

Four members of the cartel had a separate marketing arrangement called the East European Bottle Cartel, which was administered as a special division of the Czech Union Bank in Prague.⁵

There is a good deal of published material on the glass bottle cartels.⁶

SHEET GLASS

Sheet glass is a flat glass product produced now almost exclusively by sheet-drawing. In various trade statistics it is often referred to as window glass, although sheet glass is used occasionally for other purposes. The principal difference between plate and sheet glass is that the surfaces of the former are ground and polished, whereas the latter possesses only what is called a fire polish.

Up to 1939 Belgium was the principal exporter of sheet glass. Its yearly average exports during 1938 and 1939 were 160,000 short tons. Next stood Czechoslovakia.

Production of sheet glass was directed by the licensing of the three main processes—the Libbey-Owens-Ford method, the "Pittsburgh process," and the Fourcault method. Plants were erected in various countries to exploit these processes. International connections, therefore, tended to develop along intercorporate lines¹ rather than along cartel lines, though they probably induced collective co-operation of independent entrepreneurs on export markets. In the main exporting countries, Belgium and Czechoslovakia, there existed strong domestic cartels.²

^{4*} *Kartell-Rundschau*, 1937, p. 58.

⁵ *Kartell-Rundschau*, March, 1939, p. 251.

⁶ TNEC, *Hearings*, Part 2, pp. 429 and 526 ff.; *Compass*, pp. 630-631; Ballande, *Ententes*, p. 259; *Kartell-Rundschau*, 1939, pp. 111, 112, 330.

¹ "According to trade information American glass manufacturers have acquired interests in the Japanese industry and thereby have been able to curtail exports of the Japanese product to the American market."—U. S. Tariff Commission, *Report on Flat Glass—Related Glass Products*, 1937, p. 215. See also TNEC, *Monograph No. 10*, pp. 43 ff.

² An interesting report about the operation of the Belgian cartel may be found on

In 1932 the Czechoslovak and Belgian domestic cartels established an export cartel, the so-called *Convention de Marienbad*, operating through a common sales agency "Verinter," with headquarters in Brussels. This agreement made possible a common price policy and allocation of export quotas. Czechoslovakia refused to renew the agreement in 1934 because the Belgians could not control domestic outsiders. Even after the disintegration of that cartel, Belgian and Czechoslovak representatives met periodically to discuss common policies. There was sharp competition, however, between the two. When the Belgian-Czechoslovak cartel disintegrated, Germany established a domestic export cartel, the *Deutsche Fensterglas Ausfuhr, G.m.b.H.*, in Frankfurt, and became increasingly successful in seizing new markets of sheet glass for herself. It has been stated that the purely domestic producers had to share the losses of the exporters. There are signs that seem to indicate that Germany and Czechoslovakia co-operated to some extent on imports and exports of sheet glass.⁸

PLATE GLASS

Plate glass is a refined type of flat glass possessing a ground and polished surface, free from structural defects, often used in automobiles and in buildings where ordinary sheet glass is not practicable.

Plate glass has a long cartel history. The first such cartel was listed in 1879. After a severe price war from 1900 to 1904 producers and exporters under Belgian leadership established a comprehensive cartel agreement on August 17, 1904, the *Convention Internationale des Glaceries*. The purpose of this cartel was to regulate exports by quotas, to determine a common price policy, and to deal with outsiders. The cartel agreement was renewed in June, 1908, and again on June 18, 1914. The participants were Belgium, Germany, France, Holland, and Austria. After the First World War, the old Convention was renewed on March 24, 1921. One of the interesting points in this agreement was that its participants took advantage of Section b, Article 299, of the Treaty of Versailles, which made it possible to continue certain business relationships disrupted by the First World War. Spain was added to the former list of participants. Italy was officially an outsider though she probably co-operated to some extent

p. 198 of the U. S. Tariff Commission's *Report on Flat Glass and Related Glass Products*. In Czechoslovakia, over-capacity compelled the government in 1934 to introduce compulsory licensing of new plants and, because this measure did not seem sufficient, early in 1936 a compulsory glass syndicate was established consisting of representatives from the government, entrepreneurs, and labor.

⁸ See Ballande, *Ententes*, pp. 257-58.

with the cartel. Czechoslovakia remained outside until about 1936. On April 26, 1927, the cartel was prolonged to the end of 1960, with provisions for renunciation under certain circumstances. There were close intercorporate connections among many cartel members, especially among those in western Europe.

The two large American plate glass producers, Libbey-Owens-Ford and the Pittsburgh Plate Glass Company, had affiliations with some of the European cartel members either through licensing agreements, by direct ownership, or by marketing agreements.¹ The two American companies also had financial affiliations with large chemical concerns in order to obtain some of their raw materials at advantageous prices. United States' plate glass exporters were organized in the Plate Glass Export Corporation, Pittsburgh, Pennsylvania, as a Webb-Pomerene Association in December, 1935. Their chief export market has been Canada. According to an official report, they intended to meet any competition from European manufacturers.²

There were other outsiders to the cartel, chiefly two large Belgian concerns, one of which was established with American capital, and a Dutch firm.

A Plate Glass Mirror Cartel was established in 1928 with participants in Germany, France, Holland, Belgium, and Czechoslovakia. This cartel was of almost no importance.³

GLASS FIBER

Glass fiber is a newly invented material used for insulation against heat and fire. If it becomes less expensive, it might be used for draperies and other purposes.

On November 1, 1937, the Owens-Illinois Glass Company made a patent agreement with the Italian producer of that material, the *Società Anonima Vetreria Balzaretti Modigliani*, of Leghorn, Italy, restricting the export of this commodity and imposing export restrictions on those who might sell such material or fabrics made of such material.¹ This arrangement ended when the Second World War began.

HARD METAL COMPOSITION (TUNGSTEN CARBIDE)

Hard metal composition is composed principally of cemented tungsten carbide. It is employed chiefly in making fine cutting edges on machine tools.

¹ TNEC, *Monograph No. 10*, pp. 51, and 54. See also Ballande, *Ententes*, pp. 251 ff.

² TNEC, *Monograph No. 6*, p. 212.

³ *Compass*, p. 631.

¹ TNEC, *Hearings*, Part 2, pp. 663 ff.

International control of this market rested upon a complicated licensing system. It related not only to cemented tungsten carbide but also to the tools and dies containing such composition. In 1928, *Friedrich Krupp Aktiengesellschaft* of Germany, and General Electric Company and its subsidiary, the Carboloy Company (set up to exploit the hard metal composition processes), of the United States, made an agreement to pool patents and exchange technological information. The agreement was to last for fifteen years. This agreement contained an unusual price-maintenance feature by which the American participant was able to fix the sale and resale prices on cemented tungsten carbide in the American market. It also allocated export markets to some extent. According to official reports, an amendment to the agreement in 1936 provided for home market protection and restricted American exports.¹

In 1927, an agreement between International General Electric, the foreign sales agency for General Electric, and a German company, *Allgemeine Elektrizitäts Gesellschaft* (AEG), enlarged a subsisting agreement (of January 2, 1922, concerning general co-operation) to include hard metal compositions. This obligated the American company not to engage in selling in Germany, Austria, Memel, and Danzig any hard metal composition or tools and dies containing such material. AEG accepted similar obligations with reference to several countries which were in the direct sphere of interest of General Electric. These agreements were modified, supplemented, and extended on October 7, 1938, until the end of 1955 by General Electric, International General Electric, Carboloy, and AEG.²

Krupp also had a gentleman's agreement with a British producer (connected with General Electric through stock ownership) of cemented tungsten carbide relating to patents and home market protection.³

The best discussion of these cartel arrangements was the testimony produced at the Hearings before the Committee on Patents in the United States Senate in 1941.⁴ All the participants in these agreements were indicted in 1941 under the Sherman Act by the Antitrust Division of the Department of Justice.⁵ In 1940, this patent system crumbled when a United States Federal Court declared six of the most

¹ See Bone Committee, *Patent Hearings*, Part 1, pp. 66 ff.

² These agreements are presented in Bone Committee, *Patent Hearings*, Part 1, as Lewin Exhibit No. 9, pp. 232 ff. See also *ibid.*, pp. 179, 222.

³ *Ibid.*, p. 126.

⁴ *Ibid.*, pp. 38 ff.

⁵ The indictment is contained in Bone Committee, *Patent Hearings*, Part 1, pp. 156, and 169.

important patents invalid on the grounds that they were not truly basic patents but consisted only of improvements in the treatment of well-known combinations of materials by metallurgical processes commonly known.⁶

The price policies developed under this patent arrangement were unusual. There seems to be evidence to indicate that when the agreement was being negotiated, General Electric suggested a minimum price of \$50.00 per pound. Following the agreement, the maximum price in the United States rose abruptly to \$453 per pound. The minimum price less quantity discounts was continued through 1929 and one-half of 1930 at \$360 per pound. In the middle of 1930, the minimum price was reduced to \$225 per pound. The maximum price up to October, 1936, in spite of the world-wide economic depression, remained the same. At that time the maximum price was reduced to \$225 a pound where it stayed until antitrust proceedings were instituted. When the basic patents were declared invalid, the price dropped sharply; in 1941 the maximum price listed by the Office of Price Administration was \$45.36, and the minimum price (large purchases) \$27.21 per pound. It was alleged that this policy of charging excessive prices was based principally on a desire to eliminate competitors. This charge, not easily understandable to the layman, was sharply repudiated by the representative of Carboloy. Though admitting the price fluctuations mentioned above, he explained them by previous research expenses, service charges, etc.⁷ The economist interested in the theory of "administered" prices may see here an interesting example of the operation of the cost-price mechanism.

In Germany, where much larger quantities of cemented tungsten carbide were manufactured, prices did not rise to such high levels as in the American market; in fact, they were less than one-fourth as high.⁸ European prices in comparison with German prices were reported to be as follows in 1939: England, 10 per cent higher; Italy, 5 per cent higher; Poland, same. All other countries were 30 per cent lower.⁹

⁶ *Ibid.*, p. 266.

⁷ Price policies are discussed, *ibid.*, pp. 85 ff., 140 f., and 478 f. According to the Department of Justice, the "little fellow" had to pay maximum prices because he did not receive quantity discounts; the large buyer could purchase for minimum prices. Other groups were charged prices between maximum and minimum. Pertinent price problems with reference to the Sherman Act are discussed in Bone Committee, *Patent Hearings*, Part 1, p. 279.

⁸ *Ibid.*, pp. 85, 87.

⁹ *Ibid.*, p. 374.

HOUSEHOLD APPLIANCES

An Association of Household Appliances uniting German, Czechoslovakian, Swedish, and Finnish producers of household appliances was formed after the First World War. Headquarters were at The Hague. Prices were fixed for the international market. During 1937 it encountered difficulties due to fluctuations in exchange rates.¹

The market of American electric vacuum cleaners was considerably influenced by an agreement concluded between the International General Electric Company, the Electric Vacuum Cleaner Company, Inc., and the *Allgemeine Elektrizitäts Gesellschaft*.²

LINEN THREAD

An agreement was concluded October 28, 1925, to be valid until December 30, 1940, on export quantities and prices of linen thread used in the manufacture of shoes and for other industrial purposes. The member countries were Switzerland, Czechoslovakia, France, England, and Germany. The central agency was operated by one of the member firms in Niederlenz, Switzerland.¹

LINOLEUM

Linoleum is a heavy flooring material which is usually made of jute or burlap and surfaced with a composition of powdered cork, oxidized linseed oil, or other ingredients. New chemical processes have greatly improved and added to the varieties now manufactured.

The first linoleum cartel was established in 1910 under German and English leadership. After the First World War, a series of mergers and other intercorporate transactions resulted in a mixed trust-cartel relationship based on interlocking ownership, a common sales organization, and agreements for export quotas and price policies.

The membership of the cartel consisted of a number of German, Swiss, Swedish, Dutch, Lithuanian, French, Norwegian, Austrian, and Czechoslovak firms that were producers and exporters of linoleum. The United Kingdom, Germany, and the Netherlands were the largest exporters. The British Linoleum Association had an agreement with the Continental cartel without actually being a regular member.¹

¹ *Kartell-Rundschau*, 1937, p. 248.

² Cf. Bone Committee, *Patent Hearings*, Part I, p. 233.

¹ *Czechoslovak Cartel Book*, p. 299.

² A report received by the Bureau of Foreign and Domestic Commerce contains the information that the International Linoleum Association held negotiations with the British in 1933, urging them to join the cartel.

The affairs of the Continental cartel were administered by the Continental Union, Inc., in Zurich, a Swiss holding company, organized in 1928 by the cartel. This agency operated under an agreement with the four national charter groups—German, Swiss, Dutch, and Swedish—which pooled their corporation profits through obligating themselves to pay a uniform percentage of dividends. Those companies which had more than average profits were obliged to pool the excess with the Swiss central agency which, in turn, transferred it to those members who did not earn average profits. This system worked smoothly until the large-scale depreciation of currencies, and the introduction of exchange controls helped unbalance the scheme. Great difficulties arose particularly in relation to Germany. The German group held almost two-thirds of the total production quota and also earned high dividends which, of course, were supposed to be pooled. The German Government did not oppose the principle of international pooling of profits; however, it permitted the transfer of the huge profits from the German linoleum works only as computed on the exchange value of depreciated marks. Thus there arose "losses" on the German currency transfers which were, in turn, specifically pooled among the remaining members according to special arrangements.²

Export prices were fixed by the cartel on a uniform basis with the co-operation of the British group. The price policy was fully adjusted to the fact that many substitute products were available.³ Swedish co-operatives, however, regarded linoleum prices as excessive and started an attack against the linoleum monopoly⁴ early in 1938. They were reported successful in their fight.⁵ As a result of the Swedish action, an arrangement was concluded between the co-operatives and the linoleum trust in June, 1938.⁶

Prism linoleum was produced and exported under special licenses according to an agreement between *I. G. Farbenindustrie* and the *Deutsche Linoleumwerke*.⁷

² A detailed discussion of this arrangement and an analysis of the situation in 1936-1937 may be found on pp. 2269-71, of *Der Deutsche Volkswirt* (Berlin), August 12, 1938.

³ Benni *et al.*, *Industrial Agreements*, pp. 57 ff. See also Ballande, *Ententes*, pp. 285 ff.; Plummer, *International Combines*, pp. 70 f.

⁴ Consular Report from Stockholm, Sweden, April 8, 1939.

⁵ *Ibid.*, May 25, 1938.

⁶ Report from Trade Commissioner, Stockholm, Sweden, June 20, 1938. The methods which Swedish co-operatives used in an attempt to fight international monopolies is discussed with a somewhat disproportionate emphasis in Axel Gjöres, *Co-operation in Sweden*.

⁷ See Bone Committee, *Patent Hearings*, Part 5, p. 2338.

MATCHES

There are three general types of matches in use. The strike-anywhere and the strike-on-box (or safety) matches are wooden matches, the latter with either colored or uncolored stems. The third type is folding book matches with paper sticks.

A great deal has been written about the match trusts and cartels. The story of Krueger and Toll Company, the tragicomedy of Ivan Krueger's business activities and the structure of the *Svenska Tandsticks Aktie Bolaget* (STAB), including its connections with the International Match Corporation, have often been recounted.¹ Not many industries are so thoroughly imbued with monopolistic elements as is the match industry. However, matches did not play a very significant part in international trade from the standpoint of volume or value. Sweden, the largest match exporter, shipped from 1935 to 1938 about 18,000 short tons yearly, the yearly shipments valued at about five million dollars. There were numerous intercorporate relations between companies in national and international business.² A characteristic feature of the industry was that its products were subject to taxes imposed by governments. Some aspects of the American market are discussed in a Report of the United States Tariff Commission.³

Before the Second World War there existed in addition to the corporate connections of the Swedish Match Company an international cartel in wooden matches under Swedish leadership with headquarters in London. The cartel provided for home market protection and for export quotas. Export prices were adjusted to domestic prices in the importing countries.⁴

The Antitrust Division of the United States Department of Justice recently moved to obtain an injunction against the match cartel, naming as defendants the Diamond Match Company and five other American firms, the British Match Company, Ltd., of London and its affiliate, Bryant & May, Ltd., the Eddy Match Company, Ltd., of Canada; Transamerican Match Corporation; and New York Match Company (both sales agents of the Swedish Match Company). The complaint charges that the defendants have entered into contracts, agreements, arrangements, and understandings to restrict production

¹ See *Fortune*, May, 1939, pp. 89 ff.; Plummer, *International Combines*, pp. 49 ff.

² Cf. Ballande, *Ententes*, pp. 262 ff. and *U. S. v. The Diamond Match Co. et al.*, Complaint filed May 1, 1944.

³ *Matches*, Report No. 94, Sec. Ser., 1935.

⁴ Bureau of Foreign and Domestic Commerce, *World Chemical Development*, 1938, p. 77.

and trade in matches, to fix prices, and to apportion sales territories among themselves over a period of forty-three years. It is stated that Diamond Match and other American plants refrained from exporting outside the United States and that Diamond Match acted as the exclusive agent for the Swedish Match Company in the United States, selling imported matches at prices and terms fixed by Swedish Match and Diamond. It further charged that the British Empire was divided between Bryant & May and Swedish Match. It appears from the complaint that relations between Diamond and Bryant & May since 1914 have been more cordial than among the other international groups, since, in addition to other agreements, these two companies exchanged information on match machinery, processes, and inventions. The complaint reviews the Japanese situation and its relation to the cartel. It is stated that from 1923 until 1932 Kreuger owned or controlled approximately 80 per cent of the Japanese match industry. Following the death of Kreuger, these assets were reacquired by Japanese nationals. In the early part of 1935, Swedish Match, after consultation with and approval of Diamond, executed an agreement with the Japanese and Russian match exporters limiting their imports to the United States and fixing the prices at which matches would be sold. The agreement was not renewed at the end of 1935 because the Russians reportedly did not abide by the price provisions. It alleged that in 1936 arrangements with the Japanese importers were concluded satisfactorily and in the middle of 1937 with the Russian export corporation by Diamond Match Company.

According to the Justice Department, a wholly-owned subsidiary of Diamond Match, Uniform Chemical Products, Inc., was practically the only source in the United States of various match chemicals, including the most important one, chlorate of potash.^{4*} Uniform Chemical Products had exclusive contracts with all United States match manufacturers.

Chlorate of potash, though mainly used in match manufacture, is also valuable in the production of ammunition and flares. In November, 1922, *Chemische Fabrik Griesheim Elektron* of Germany (later absorbed by IG) made an agreement with Uniform concerning Uniform's monopoly to sell chlorate of potash in the United States. Under this agreement, Uniform refrained from producing chlorate of potash on a commercial scale and was supplied by the German firm that also agreed not to import in the United States to any manufacturer besides Uniform. The agreement was renewed yearly until April, 1939, when

^{4*} See p. 339 concerning *sodium chlorate*, also a chemical used in matches.

the increase of duties on German potash made the deal unworkable. Although chlorate of potash plants had been scrapped, Uniform began producing chlorate of potash again. The Oldbury-Electro Chemical Co., producers on a small scale, did not complicate the situation.

The complaint of the Antitrust Division relates many incidents of internal cartel dissension, particularly between the two leaders of the American and Swedish groups. These two, it is claimed, resorted to various subterfuges to wrest control of markets, even of each other's home markets, in spite of understandings to the contrary. A favorite device was to acquire plants in the other's territory and then use the plants for bargaining purposes in cartel activities.⁵ The Diamond Match Co. in an extended reply denied the charges of the Justice Department.⁶

MOTION PICTURE FILM AND EQUIPMENT

The production of film for the movie industry entails considerable technical skill and experience. Its production centered in the United States and Germany. The main American and German companies co-operated through exchange of technological information and patents,¹ but according to private sources, there existed some competition between the two groups.

Patent agreements regarding apparatus for recording and reproducing motion pictures were concluded on July 22, 1930, after a conference in Paris. The agreement was to extend for fifteen years. The parties to the agreement consisted of two American electric companies, Electrical Research Products and RCA Photophone, Inc., the German companies of *Allgemeine Elektrizitäts*, *Siemens & Halske*, and the so-called Tobis-group representing a number of Dutch companies. American film producers and distributors also took part in these negotiations. The agreement divided world markets and provided for exchange of technological information as well as for patents.² These agreements were modified and re-formed on October 7, 1938. RCA and Westinghouse Electric and Manufacturing Company were connected with these transactions in the field of "radio."³

⁵ *U. S. v. The Diamond Match Company, et al.*, Complaint filed May 1, 1944.

⁶ *The New York Times*, Oct. 28, 1944, p. 23.

¹ Bone Committee, *Patent Hearings*, Part 5, pp. 2105 and 2352; see also TNEC, *Monograph* 43, p. 7.

² Bone Committee, *Patent Hearings*, Part 3, pp. 1260 ff. and Military Affairs Committee, *Monograph* 1, p. 22; see also Federal Communications Commission, *Investigation of the Telephone Industry*, 1939, pp. 244, 402, 403.

³ Bone Committee, *Patent Hearings*, Part 1, pp. 241-42. See also the 1938 agreement between IGE and AEG in Appendix VIII E.

Intercorporate connections between companies engaged in the actual marketing of movie films were prevalent. These connections were strongest between American and British companies. There were probably understandings in regard to marketing but these are unknown to the author.⁴

OPTICAL GOODS

Optical goods are a typical commodity on which competition on a national or international scale is blocked by very highly specialized knowledge and experience. Before the last World War Bausch & Lomb, a manufacturer of optical goods in the United States, had an agreement with Carl Zeiss of Jena (Germany) to furnish that concern with technological information and patent licenses relating to optical goods. There were intercorporate ties through stock ownership. In 1921, a new contract was made assigning certain world markets to the American company. Neither was to export to the other's territory unless sales conditions were agreed upon. A new agreement was made in 1926 in order to adjust the agreement to the requirements of the Antitrust laws. World markets on non-military articles were to be competitive; however, the American and German producers agreed "to give consideration to each other's interest in military articles."¹ After Hitler came to power, no new patents from Zeiss were forthcoming, and the American company began to resent paying royalties on the old patents. In September, 1938, the American company stopped paying royalties, and when the war broke out in 1939, Bausch and Lomb suspended the agreement of 1926. The Antitrust division of the Department of Justice charged the Bausch & Lomb Company in 1940 with restricting competition in foreign and interstate commerce. The action was settled by the signing of a consent decree.

PAPER

Cartel literature contains lists of several collective marketing controls concerning different kinds of paper. None of these controls have been very significant. It has often been asserted that there were

⁴ Plummer, *International Combines*, pp. 33, 135-37. According to a newspaper report, Hollywood film companies are worried for fear the fairly large exports of raw film from the United States to Russia, India, Mexico, etc. for war purposes may be used to produce movies in competition with those made by American companies. (See *The Greensboro Daily News*, March 11, 1945, Sec. 4, p. 5.)

¹ See Borkin and Welsh, *Master Plan*, Chapter 20; Bone Committee, *Patent Hearings*, Part 1, pp. 643 ff. *Fortune*, October, 1940, p. 76 ff.; Committee on Military Affairs, *Mongraph No. 1*, pp. 46, 57, 61; Kilgore Committee, *Mobilization Hearings*, Vol. 16, *passim*.

collective agreements and corporate ties between Canadian producers of newsprint, on the one hand, and American newsprint producers and consumers on the other hand. There are only a few hints as to the degree of intimacy of these connections.¹

Laurence Ballande lists an international newsprint agreement consisting of a Scandinavian group (Scanticon), Canadian producers (Canticon), and of other European producers, as well as consumers, in France, Great Britain, Holland, Germany, Italy, and Esthonia, called Euticon. In 1928 these groups established an organization to promote closer collaboration between exporters and importers of newsprint, with headquarters in Stockholm. At the beginning, this organization, called *Comité International du Papier Journal* (Ticon), restricted its functions to collecting statistics and to co-ordinating general trade policies. However, after the sharp fall in prices between 1929 and 1931, according to Mrs. Ballande, agreements were concluded to reduce output and exports. Mrs. Ballande emphasizes that it was particularly difficult to obtain material about this combination because of its policy of strict secrecy.² She lists another international cartel consisting of exporters of Germany, Austria, Belgium, Esthonia, Finland, Great Britain, Holland, Italy, Norway, Poland, Sweden, Switzerland, and Czechoslovakia, in regard to supplying newsprint to French newspapers. The French association of newspaper publishers participated in the agreement. Though this accord was not particularly important, it is an interesting example of consumer participation in a collective marketing control of producers. The agreement was concluded in August, 1932, and was annually renewed through 1936. It is unknown whether it existed after that date.³ The United States Antitrust Division charged several American companies with conspiracy in violation of the Sherman Act by fixing prices and sales terms of newsprint imported to the United States. The indictment was returned July 12, 1939, and on May 2, 1941, six defendants were fined a total of \$30,000.

There were a number of international cartels pertaining to special grades of paper. Thus an organization called Scankraft united exporters of kraft paper in Finland, Norway, and Sweden. British importers also participated in this agreement. The headquarters of the cartel were in Sweden; it was established in 1933. It regulated prices and fixed export quotas. Of similar structure were the agree-

¹ See John A. Guthrie, *The Newsprint Paper Industry* (Cambridge, Mass., 1941), pp. 93 ff.

² *Ententes*, pp. 223 f.

³ *Ibid.*, p. 226.

ments among Finnish, Norwegian, and Swedish exporters of greaseproof papers called Scangreaseproof.⁴

A China Cap convention regulated the exports of machine-glazed cap paper from Finland, Norway, and Sweden. Its headquarters were in Norway.⁵

The International Parchment Convention included exporters of glassine and greaseproof papers in Germany, Belgium, England, France, Italy, Czechoslovakia and Finland.⁶

There was also a Central European cartel of wrapping paper composed of members from Czechoslovakia, Hungary, and Austria, established in March, 1930.⁷

Another cartel was called Scansulphite and included the northern European producers of sulphite paper. It was established at the beginning of 1938. In February of 1939 the cartel freed prices and removed production restrictions. This action, however, only suspended the operation of the cartel, which continued to intervene in production and price policies when it seemed advisable. The cartel engaged in price-cutting against outsiders of the cartel.⁸

PENCILS

The German pencil-producing concern of *Johan Faber A.G.*, in its own name and in the name of its many foreign subsidiaries, and the Czechoslovak firm of L. and C. Hartmuth in Ceské Budejovice, made a cartel agreement relating to export policies. A special joint-stock company was set up in Switzerland to co-ordinate export policies.¹

PHONOGRAPHS

Comparatively little is known about collective marketing controls in this field, one reason being that these controls are tied up with agreements relating to other electrical apparatus. One agreement has been listed between the International General Electric Company, AEG, the Brunswick-Balke Collender Company, the *Deutsche Gramophon Gesellschaft*, and the *Poliphonwerke, A.G.*, which was drawn up on May 24, 1928. It was prolonged to 1935.¹

⁴ *Ibid.*, pp. 229-30. See also U. S. Tariff Commission, *Wood Pulp and Pulpwood*, p. 119; *Kartell-Rundschau*, 1937, p. 577, and 1938, p. 576.

⁵ Ballande, *Ententes*, p. 230; U. S. Tariff Commission, *Wood and Pulpwood*, p. 119.

⁶ U. S. Tariff Commission, *Wood Pulp and Pulpwood*, p. 119.

⁷ Ballande, *Ententes*, p. 230.

⁸ *Kartell-Rundschau*, 1939, p. 194.

¹ Ballande, *Ententes*, p. 280.

² Bone Committee, *Patent Hearings*, Part 1, p. 240.

PINS AND SNAP FASTENERS

German, Czechoslovak, French, and Spanish producers of pins were united in an international agreement extending up to the end of 1938, when it was prolonged. Headquarters of the group were in Berlin. The agreement included former important outsiders in England, Germany, Czechoslovakia. The cartel did not operate smoothly and permanent difficulties existed among cartel adherents.¹

A separate agreement to regulate the international market of safety pins was concluded among the same producers. The cartel secured by a gentlemen's agreement the co-operation of England and Belgium. There were fewer outsiders than in the pin cartel. This cartel did not have the same internal difficulties as did the marketing control of straight pins.²

The first agreement relating to the international market of snap fasteners was made in 1927, elaborated upon in 1929, and further reinforced about 1935. French, German, Czechoslovak, and Austrian producers participated in the cartel, which fixed export quotas and prices, and mutually protected home markets. The name of the group was *Internationaler Druckknopfverband*, and headquarters were in Berlin. In the Far East the group encountered sharp competition from Japan. Elsewhere Sweden and Great Britain were strong outside competitors.³

Companies producing slide fasteners (zippers) in Europe were connected by cartel agreements. Although basic patents expired in 1934, supplementary patents and technological experience still influenced the production and international trade in zippers.⁴ Many intercorporate connections existed in this branch on the international market.

RADIO EQUIPMENT

Radio sets and radio equipment for receiving and transmitting stations were subject to a collective marketing control between the two world wars. No proof is necessary that these controls were interwoven with mutual exchange of technological experience and patent licenses. The basic agreement concerning radio equipment was made in 1925 by International General Electric Company, Radio Corporation of America,¹ Westinghouse Electric International Company,

¹ *Kartell-Rundschau*, 1938, p. 521.

² Ballande, *Ententes*, p. 269.

³ *Ibid.*

⁴ C.E. TNEC, *Monograph 10*, p. 27.

⁵ Bone Committee, *Patent Hearings*, Part 1, pp. 242 ff. See also Federal Communications Commission, *Investigation of the Telephone Industry*, (House Doc. No. 340), 1939, pp. 402-03.

Allgemeine Elektrizitäts Gesellschaft; and the Dutch companies, *N. V. Philips Gloeilampenfabrieken* and *N. V. Philips Radio*. The Hartford National Bank and Trust Company, trustee for *N. V. Philips*, has announced that the licenses on radio equipment issued by RCA on the Philips patents will expire July 1, 1945, and must then be renegotiated. These licenses relate to over 700 patents that are considered practically indispensable in making radios. It is rumored that this move suggests the entry of the Dutch firm into the American radio market.^{1a} One part of the agreement, to which German and British companies were probably later connected, allocated export markets among the participants.² RCA entered into patent exchange agreements, which served as supplements to its traffic agreement, with European companies. This was considered necessary by the company, for most European countries do not permit foreign ownership or operation of radio stations.³

RAILROAD CARS

The International Association of Manufacturers of Rolling Stock (*Association Internationale des Constructeurs de materiel Roulant*, AICMR) joined the builders of railroad cars in France, Germany, Austria, Belgium, Danzig, the Netherlands, Hungary, Poland, Switzerland, Sweden, Denmark, and the United States in a trade association which established headquarters in Paris. In the course of time, the Association engaged in market-co-ordinating activities, though this control never reached an extent generally characteristic of international cartels. A preliminary marketing organization was established in 1926. On April 12, 1930, the first marketing agreement was signed to divide export markets and protect home markets. The general financial crisis in 1931 nullified the marketing framework of the association except for home market protection. Between 1932 and 1934, market control activities were limited to mutual consultation. Stronger co-operation was reconstituted by an agreement dated November 23, 1934, effective December 1, 1934. Laurence Ballande reported that paragraph 2, Article 4, of the by-laws of the Association obligated the members to consult mutually about their export business.¹ According to a League of Nations report, the operation of the Association in 1935 was extended for a relatively long period. It went on to say: "In

^{1a} *The New York Times*, April 10, 1945, p. 26.

² Ballande, *Ententes*, p. 171; Subcommittee on Military Affairs, *Monograph No. 1*, pp. 20, 21, 45.

³ William H. Bennett, *The American Patent System* (Baton Rouge, 1943), pp. 213 ff.

¹ *Ententes*, p. 291.

spite of the efforts to induce British producers to join, the latter have confined themselves to suggesting the extension of the gentlemen's agreement which binds them to this association."²

Only one American company joined the agreement, the Pullman Standard Car Export Corporation of New York. One report wryly remarks that the American laws did not exactly encourage the company to join.³

In 1936 the cartel registered 683 business transactions amounting to 1.33 billion French francs. Exports were valued at 332.3 million francs.⁴

RAYON

The word rayon, as applied to synthetic yarns made from a cellulose base, was accepted in 1924 by the National Retail Dry Goods Association. By the middle thirties the name rayon had become common usage all over the world.

There are two main types of rayon, namely, the "continuous filament" rayon and the "staple fibre" rayon. Staple fibre yarns are the newer and have not yet been fully developed. These yarns are worked into spun rayon which may resemble cotton, woolen, or linen worsted, whereas the continuous filament rayon looks like real silk.

Rayon is produced by four processes: (1) viscose (2) acetate, (3) cuprammonium, and (4) nitro-cellulose. By far the largest amount is produced by the viscose process.

The problem of competition and combination in the rayon industries is rather involved. After the expiration of the basic patents in the twenties, many new enterprises arose which at least potentially challenged the positions of the giant companies already in existence. Tariffs on rayon yarn influenced exports, imports, and prices.¹ Corporate and co-operative agreements in these industries were intertwined in a vast network.

The most important firm on the export market from the beginning of the industry was Courtaulds, Ltd., of London.² Spinners of viscose yarn co-operated as early as 1906. In January of that year, the first

² *Circular E. 890*, of April 15, 1935, and *E. 946*, of June 5, 1936.

³ *Kartell-Rundschau*, 1937, p. 488.

⁴ *Ibid.*

¹ An official U. S. publication asserts that the tariff on imports of rayon yarn has promoted concentration within the rayon industry and raised domestic prices above world prices. See TNEC, *Monograph 10*, p. 89.

² Cf. C. H. Ward-Jackson, *A History of Courtaulds* (for private circulation) [London, 1941], entire.

conference of European viscose interests took place in Paris. Since then frequent meetings have been held. C. H. Ward-Jackson has written: "This co-operation was not based so much on written agreements as on something much stronger—a common realization of the wisdom in the common interest."³ According to him, in 1911 the first consortium of viscose yarn spinners was formed, its purpose being the pooling of markets and the exchange of technological information. The members were producers in England, Germany, France, Belgium, and Switzerland.⁴

Courtaulds participated in the establishment of factories for producing and exporting rayon all over the world and made agreements with firms which produced rayon by processes other than the viscose method. They also made agreements to exchange technological experience. The relationship between these companies, though similar to a collective marketing control, seemed to have more elements of a corporate type. Alfred Plummer designates this combination as "a good deal more than a gigantic international cartel."⁵ According to C. H. Ward-Jackson, "these agreements with the principal German and Italian viscose yarn producers represented the furthest step—apart from the American company—which Courtaulds had yet taken in the way of international commitments and alliances. One outcome was greater world confidence in the stability of rayon yarn prices."⁶

Though Courtaulds maintained relations with the largest producers and exporters of rayon, they did not attempt to shut out other producers from the market.

An organization was formed to standardize rayon commodities. This was a trade association called *Bureau Internationale pour la Standardization des Fibres Artificielles* (Bisfa), with members in Belgium, Germany, England, France, Holland, Italy, Poland, Switzerland, Spain, and Czechoslovakia.⁷

Another important agency of the cartel type was established on July 2, 1931, by exporters from several countries including Germany, Italy, Holland, France, and Switzerland, concerning the sale of rayon on the German market. The cartel was administered by a commercial company with limited liability called *Kunstseide-Verkaufsbüro, G.m.b.H.* (KVB). It aimed to allocate import quotas, fix prices, supervise the German market organization, and control credit facilities. Orders were placed with the KVB which then permitted its

³ *Ibid.*, p. 112.

⁵ Plummer, *International Combines*, p. 35.

⁷ Ballande, *Ententes*, p. 85.

⁴ *Ibid.*

⁶ *Ibid.*, p. 139.

members to deliver directly to customers. The allocation of import quotas was not very effective because the German Government itself sometimes interfered and determined the quantities to be imported.⁸

In 1938, Courtaulds and ICI made a patent agreement with Du Pont in regard to nylon yarn, a new synthetic product. The understanding was that Courtaulds was to join with ICI and form a company to manufacture nylon yarn. These patent rights extended only to the British Empire exclusive of Canada.⁹

After a rather severe price war, a cartel for viscose yarn was organized in 1937 by firms operating in England, Belgium, Italy, and Germany. In 1939, the cartel was broadened in an effort to expand markets. It regulated the exporting of rayon yarn to twenty countries and provided for standardization of products. In 1939 Sweden started producing rayon and in the summer of 1939 came to agreement with the cartel. It was then reported that the cartel anticipated amicable relations on the Scandinavian markets. This convention did not extend to the staple fiber yarns because of their fairly recent development.¹⁰

The whole production of rayon was changing rapidly at the time the present war began. Patents and technological know-how have always played an important role in that entire combination movement.¹¹

RUBBER-THREAD

Rubber-thread is used extensively in the manufacture of hosiery, sports wear, girdles, golf balls, etc. New processes of manufacturing rubber-thread from latex have developed rather recently. It is probable that numerous patents on these processes exist. The producers of rubber-thread in Germany, England, France, Holland, Italy, Czechoslovakia, and Hungary established the International Rubber Thread Association in 1931, with headquarters at Zurich. The duration of the agreement was for five years and was then to be prolonged indefinitely. According to a report, the Plymouth Rubber Company, Inc., of Canton, Massachusetts, co-operated with this group.¹ The cartel regulated export quotas and prices.²

⁸ *International Cartels*, No. 1, 1939, p. 18. The non-German members of the KVB were bound to insert in all their sales contracts of rayon outside Germany a provision that rayon must not be sold or transported into Germany without the express permission of the KVB. Cf. Herman Levy, *Industrial Germany* (London, 1935), p. 149.

⁹ *The Economist*, May 13, 1939, p. 400.

¹⁰ *Kartell-Rundschau*, 1939, pp. 511 and 549; and *The Economist*, April 29, 1939, pp. 255 ff.

¹¹ A few of the patent agreements are listed in Bone Committee, *Patent Hearings*, Part 5, p. 2336. See also Friedländer, *Kartelle*, p. 342.

¹ *Czechoslovak Cartel Book*, p. 341.

² *Compass*, p. 946.

According to an American report, there are two international cartels in this field. One is administered by the International Latex Products, Inc., Birmingham, England; the other by the above-mentioned International Rubber Thread Association. The U. S. Rubber Company and the British Dunlop Company belong to the first, and Goodrich and Easthampton Rubber-Thread companies to the second. However, close connections seem to exist between these two groups.³

SUBMARINES

The building of submarines and their sale to various governments have always been somewhat competitive.¹ There have existed extensive and complicated marketing controls, of which the one dominated by the Electric Boat Company of New York and Vickers, Ltd., of London has been the most important. The agreement between the two companies was drawn up before the First World War and was several times modified. It was supposed to expire at the end of 1937, but there is some reason to assume that it was prolonged. This combination divided world markets, shared profits, exchanged patents and know-how. The agreement also specified conditions under which patents and technological experience were to be sold to foreign companies. There is no reason to assume, however, that these companies cooperated with German companies. Competition between Electric Boat and Vickers has been designated as "intense friendly competition."² The pertinent agreements are well discussed in the investigation material of the United States Senate.³

TYPEWRITERS

It has been reported that a sizeable number of German firms and the three principal American firms in the thirties concluded a price agreement for the export of typewriters to the Far East, the Near East, and to Latin America. It was rumored that low prices were offered on the British and Colonial markets to induce the British to enter the agreement.¹ However, typewriters and ticket-printing machines were excluded from general agreements between AEG and General Electric.²

³ TNEC, *Monograph No. 10*, p. 21.

¹ *Munitions Industry Report*, Part 3, p. 234.

² *Munitions Hearings*, Part 1, p. 312.

³ *Munitions Industry Report*, Part 3, pp. 231 ff.

¹ League of Nations, *Circular E. 946*, June 5, 1936.

² Bone Committee, *Patent Hearings*, Part 1, p. 243.

WATCHES

In 1930 an International Association of Watchmakers was formed to put an end to cut-throat competition and to control prices on the export markets. Producers in Germany, Czechoslovakia, Holland, Italy, Austria, Switzerland, Spain, and the Scandinavian countries joined the cartel.

In 1934 the German and Swiss groups made another agreement which fixed selling prices and conditions in regard to wrist watches. In addition, they agreed not to sell designs or sketches of their watches to outside competitors.¹

WOOD PULP

Wood pulp is produced by five basic processes—one of these is mechanical, three chemical, and one combined mechanical and chemical. Pulp is commercially designated as mechanical, sulphite, sulphate, soda, and semi-chemical pulp, according to the process used. These categories are subdivided mainly into bleached and unbleached. About 80 per cent of the exported wood pulp is chemical pulp, of which much the greater part is sulphite pulp. Pulp is exported and sold either on the basis of short- and long-term contracts or of spot sales. The United States has been the principal producer of wood pulp, though such was the demand of chemical and paper industries that the United States has had to import large quantities. These imports amounted in 1937 to 2.4, in 1938 to 1.7, and in 1939 to 2 million short tons. Great Britain was also a large importer of wood pulp. Canada was an important exporter of wood pulp—and was particularly significant—because she probably did not participate in international pulp cartels. Canadian exports in 1937 reached 780; in 1938, 495; and in 1939, 630 thousand tons.¹

Three important international pulp cartels, discussed below, have existed. One of them related to sulphite pulp, another to mechanical pulp, and a third to rayon pulp. Also in operation for a short period was a collective marketing control of sulphate pulp in Finland and Sweden; but it did not result in close, durable co-operation. There is no information to indicate that this last-mentioned control operated in years other than 1932-33.

Sulphite pulp.—The International Sulphite Pulp Cartel embraced the producers of bleached and unbleached pulp from Norway, Sweden,

¹ Ballande, *Ententes*, p. 284.

² See U. S. Pulp Producers Association, *World Wood Pulp Statistics, 1927-1937* (New York, 1938), entire.

Finland, Germany, Austria, Czechoslovakia, Memel, and Lithuania. It did not relate to the export of dissolving sulphite pulp used in the manufacture of rayon, plastics, and allied products. The cartel was known under the name of Sulphite Pulp Suppliers (SPS) and had headquarters in Stockholm. The economic adviser to the cartel was Dr. Clemens Lammers, a German cartel expert. SPS was established in 1930 for a period of two years and periodically renewed up to the Second World War. Its member firms were also participants in their respective national cartels. Outside of SPS and the national organizations were several important producers and exporters, though there existed a few loose informal understandings between the cartel and them. There is no information known to this writer which suggests any intimate co-operation between SPS and Canadian exporters.

SPS employed the system of production quotas based on mill capacity. The executive committee of SPS (in which all members were represented) periodically fixed the actual production quotas by a uniform increase or decrease of the standard quotas. The first reduction of 15 per cent was introduced for the period from December 1, 1930, to July 1, 1931; the second reduction for July 1, 1931, through December 31, 1932, was 30 per cent; the third reduction of 25 per cent began on January 1, 1933. On January 1, 1936, it was found expedient to eliminate interference with production and the production quotas were changed to export quotas allotted to the national groups.¹

The expansion of the Finnish group led to the cartel's discontinuance of its former policy of price fixing, decided upon at a meeting in Copenhagen in October of 1935.² But in 1936, the cartel again attempted to fix minimum prices, especially for exports to the United States because of Canadian competition.

The last agreement expired on June 30, 1939. Though it was nominally renewed for an indefinite period and was to curtail exports by 20 per cent for the second half of 1939 by means of a five-weeks' output stoppage, there are reports that because of Finland's reluctance to participate in the marketing control SPS was dissolved in the summer of 1939.³

The European sulphite pulp imported into the United States is marketed by a small number of importing firms, which are usually

¹ The export quota system was based on an estimated yearly global export quantity of 2,350,000 metric tons.

² League of Nations, *Circular No. E. 890*, April 15, 1935.

³ *Kartell-Rundschau*, 1939, p. 54. See also *The Economist*, July 22, 1939, p. 183; Ballande, *Ententes*, pp. 227 f.; U. S. Tariff Commission, *Wood Pulp and Pulpwood*, pp. 117 f.; and League of Nations, *Circular No. E 946*, June 5, 1936.

large agents. A single contract often relates to large quantities and several deliveries covering a period of six to twelve months.

Mechanical pulp.—Exporters of ground wood in Finland, Norway, and Sweden established the International Mechanical Pulp Cartel (MPS) in 1927. It consisted of national cartel organizations of the respective countries. Several non-member exporters were connected with the cartel by informal understandings. The headquarters of the cartel were in Stockholm. The duration of the agreement was until 1938. The agreement was based on export quotas. It appears that Norway had an export quota of 650,000; Sweden, 600,000; Finland, 500,000 metric tons, in 1935. In 1936, Norway had 716,000; Sweden, 661,000; Finland, 550,000 metric tons. The cartel was administered by an executive committee consisting of representatives from the three national groups. There was great dissatisfaction among the members because the cartel did not succeed in raising prices much above the level of 1935. When the cartel was renewed in 1938, its members decided to restrict output 20 per cent by stopping production for eight weeks during the last half of 1938 and for seven weeks during the first half of 1939.⁴

The exports of mechanical pulp, subject to MPS, were chiefly supplied to European countries. Only small quantities of European mechanical pulp entered the American market.

The News-Chronicle (London) of April 14, 1937, attacked the MPS, charging it with responsibility for the sharp rise of newsprint prices. In this connection, it discussed the action of an English firm, Bowater's Paper Mills, against the MPS. Bowater purchased in April, 1937, one of the plants of the Swedish firm, Scharin, Sons and Company, of Umea, which made mechanical pulp and had 33 $\frac{1}{3}$ per cent of the cartel's Swedish export quota. According to the *News-Chronicle*, there was good reason to believe that with that plant under British control the effectiveness of this cartel organization would be impaired.⁵ Certain interests claimed that the rise of mechanical pulp prices was the result of a greatly increased demand and coincided with the general price movement early in 1937. They argued that other kinds of pulp also rose in price at the same time.

It appears that the MPS succeeded, after considerable negotiation,

⁴ *The Economist*, September 17, 1938, p. 563; Ballande, *Ententes*, p. 288; U. S. Tariff Commission, *Wood Pulp and Pulpwood*, p. 117; John A. Guthrie, *The Newsprint Paper Industry* (Cambridge, Mass., 1941), p. 55; Plummer, *International Combines*, pp. 200, 201.

⁵ Plummer, *International Combines*, pp. 200, 201.

in prolonging the cartel to the end of 1941. It is reported that they also reached agreement on a common price policy.⁶

Rayon Pulp.—The two main raw materials used for the manufacture of rayon are cotton linters and wood-pulp. Dissolving sulphite pulp is the raw material for "staple fibre" and for other synthetic textile products. In 1933, exporters of dissolving sulphite pulp of Finland, Norway, and Sweden organized the International Rayon Pulp Cartel, called Rayon Pulp Suppliers (RPS). This organization was rather loose; it did not even maintain a staff. The market for dissolving sulphite pulp was limited to the producers of rayon, plastics, and allied products. There is little literature about this combination.⁷

SERVICES

SHIPPING CONFERENCES

Between the First and Second World Wars, especially in the years just before the Second World War, great efforts were made to restrict competition among shipping companies on national and international levels. Undoubtedly, most national governments did not regard the maintenance of their merchant marine on a profitable basis as simply a problem of private concern. The construction and maintenance of shipping facilities were bound up so intimately with national defense and prestige that subsidies and other encouragements were offered by all nations in an effort to bolster the position of their merchant marines. When shipping companies in contrast to other economic groups showed a willingness to make agreements which would restrict competition, they not only encountered practically no opposition from their governments but were often urged to enter organizations restricting competition.

Combinations which regulate international shipping rates have generally been referred to as shipping conferences. These conferences regulated the rates of both so-called common carriers, or liners engaged in regular overseas transportation of persons and goods, and tramp ships bearing mainly bulk goods and chartered by entrepreneurs for one or more voyages.

The Calcutta Conference of 1875 is usually listed as the first shipping conference. It covered most of the important English lines and fixed uniform rates from the ports of the United Kingdom to Calcutta.

Governmental interest in shipping conferences in the United States was manifested in 1912 when the House of Representatives adopted a

⁶ League of Nations, *Circular No. E. 1039*, July 1, 1938.

⁷ U. S. Tariff Commission, *Wood Pulp and Pulpwood*, p. 118.

resolution setting up the Committee on Merchant Marine and Fisheries to investigate shipping conferences and their significance in foreign trade and national defense. In its report in 1914 the investigating committee stressed that co-operative arrangements existed among practically all lines serving American foreign trade. The report was followed in 1916 by enactment of the United States Shipping Act. Another act to promote American shipping was adopted in 1936. By these laws the United States shipping conferences were exempted from the ordinary antitrust restrictions, provided that such agreements did not violate public or private interests. The United States Maritime Commission was in charge of co-ordinating activities of merchant shipping companies.¹

The League of Nations devoted much attention to these problems and maintained a permanent Committee on Ports and Maritime Navigation. The League also showed an active interest in freight problems of river navigation, especially with reference to the Danube.

The International Shipping Conference in London, established in November, 1921, was the over-all organization of entrepreneurs in overseas shipping. It aimed to co-ordinate the activities of shipping companies and to advance co-operation in all connected fields by voluntary agreements or through international and national legislation. The central organizations of shipping companies in each country (twenty-six in all, including the United States, Great Britain and Japan) were members of the International Shipping Conference. Meetings were held intermittently up to the outbreak of the Second World War. The International Shipping Conference was not a direct marketing control mechanism in itself, but it was the framework within which particular marketing controls could be organized and operated.

The activities of the shipping conferences consisted of allocation of tonnage quotas, pooling of ships or other facilities including revenues, fixing of uniform rates, and standardization of terms for freight contracts. Shipping conferences frequently engaged in fighting entrepreneurs who were outside the conference by offering to customers favorable discounts and rebates. Resolutions, and in particular general agreements on freight rates, were kept secret, so secret, in fact, that even regular customers had to make inquiries as to rates, routes of shipment, terms, etc., in their individual transactions. Many repre-

¹ Court decisions and other pertinent material relating to this subject are listed in A. E. Sanderson, *Control of Ocean Freight Rates in Foreign Trade*, Trade Promotion Series, Report 185, 1938, pp. 39 ff.

sentations were made by industries because shipping rates and terms were not published. Occasionally shipping conferences made agreements with trade organizations of their customers, especially with some of the large international cartels.² Sometimes trade associations, such as the Federation of British Industries, attempted to counter-balance this tight control of shipping. However, except for partial success in the North Atlantic trade, these efforts were unavailing.³

One of the most important shipping conferences was established in 1934, when British and other tramp owners set up a broad system of minimum freight rates. The British Government promised its support to this agreement provided the British tramp owners would first organize as a unified national group. The conference was organized at a time when shipping rates for the average British steamer did not cover actual expenses. In fact, there was a 25 per cent gap between freight rates and bare cost of carriage.⁴ The most important regulation in this conference applied to the River Plata trade which was significant because it largely governed rates on all tramp markets. On February 14, 1935, this conference agreed on a minimum rate. Other agreements regulating the Australian grain trade and covering shipments to Europe, China, and Japan, followed.

The International Tanker Pool was established on February 28, 1934, and put into effect as of May, 1934. The International Tanker Owners' Association, Ltd., was incorporated in London and served as an executive agency. Denmark, France, Great Britain, Germany, Italy, the Netherlands, Norway, and Sweden joined the scheme, which provided for lay-up allowances by which ships were given compensation when not in use. The Norwegian Government supported the scheme by restricting new tonnage. This conference also made allowances for vessels broken up.

Effective January 1, 1936, the ship owners of Belgium, Denmark, Esthonia, France, Finland, Germany, Greece, Italy, Yugoslavia, Latvia, Netherlands, Norway, Poland, Spain, Sweden, and the United Kingdom established the Baltic and International Maritime Conference, which fixed minimum freight rates on timber in the Baltic and White Sea trades for both liners and tramps.

In addition to those mentioned there were many other conference lines such as the North Atlantic Pool, the African Conference Line, the Levantine Conference, the East Asia Pool, etc. The South African

² See, for example, Hexner, *Steel Cartel*, pp. 31, 181.

³ A. E. Sanderson, *op. cit.*, p. 63.

⁴ *Ibid.*, p. 70.

Government made particular regulations against freight dumping in order to protect domestic industries.⁵ A shipping pool concerning rates on the Danube and comprising almost all of the German, Austrian, Czechoslovak, Hungarian, Yugoslav, and Rumanian companies, was also in existence at about this time.

Abundant material on shipping conferences is available.⁶ The fact that the United States Merchant Marine reached a dominant size and that large sections of the tonnages of other maritime nations were destroyed gives the United States Government a key position in determining the conditions of merchant shipping in the near future.

TRANSPORT INSURANCE

European transport insurance is frequently mentioned in cartel literature as subject to marketing control. This literature reports the establishment, in 1874, of such a marketing control organization which had its headquarters in Germany. After this record, however, there is a gap in available information until after the first World War, when it is known that several large companies resumed co-operation. Members of these companies numbered about two hundred individual firms with offices in twenty-four countries.¹

TRANSPORTATION AND COMMUNICATION

Before the Second World War many collective marketing controls regulating competition and rates in international transportation and communication were in operation. Railway companies co-operated in many regards to restrict competition in international transportation, as did other public carriers, especially aircraft.¹

⁵ *Ibid.*, p. 99; Hexner, *Steel Cartel*, p. 213.

⁶ See A. E. Sanderson, *op. cit.*; *Annual Report of the Chamber of Shipping of the United Kingdom for 1938-1939*, and for 1937-1938; A. E. Sanderson, *Wartime Control of Ocean Freight Rates in Foreign Trade*, 1940, Trade Promotion Series 212. In each issue of the *Kartell-Rundschau* there are reports on the current developments in the shipping conferences. The State Department of the United States has announced that a maritime agreement has been effected by the United States, the United Kingdom, Belgium, Canada, Greece, the Netherlands, Norway, and Poland to pool their shipping fleet resources from the defeat of Germany until six months after the defeat of Japan. Several United States' officials consider this agreement a preliminary to a postwar international agreement that would divide the shipping business of the world. (See the *New York Herald-Tribune*, Sept. 29, 1944, p. 8.)

¹ *Kartell-Rundschau*, 1937, p. 492; and 1938, p. 580; see also Friedländer, *Kartelle*, p. 342.

¹ L. C. Tombs, *International Organization of European Air Transport* (London, 1936), and Claude E. Pepper, *Air Transportation* (Philadelphia, 1941). See also the *New York Times*, April 2, 1944, p. E 3.

In communication, telegraph companies co-operated in order to prevent competition between cable and wireless.² Many of these monopolies were established either by governments or with their approval. American Telephone & Telegraph Company had many exclusive licenses concerning communication patents.³

² Cf. TNEC, *Monograph 21*, pp. 88 and 100; Plummer, *International Combines*, p. 55; and *Newsweek*, April 12, 1943, p. 72.

³ See Bone Committee, *Patent Hearings*; Part 1, p. 282, and Federal Communications Commission, *Investigation of the Telephone Industry* (House Document No. 340), 1939, *passim*.

PART THREE

APPENDICES

APPENDIX I

BY-LAWS OF THE BUREAU OF INTERNATIONAL CARTELS

BUREAU OF INTERNATIONAL CARTELS

Founded under the auspices of the International
Chamber of Commerce

June 28, 1938

STATUTES

- I. The object of the Bureau of International Cartels is:
 1. To study the international organizations for production and marketing;
 2. To publish:
 - (a) The results of its studies in full agreement with its adherents and with the permission of the organizations concerned;
 - (b) Releases communicated to the Bureau by the cartels for publication;
 - (c) Articles on certain international economic problems concerning the organization of production and marketing;
 - (d) Information concerning the legal status of cartels in the different countries as well as on legal problems relating to cartels;
 3. To organize meetings between adherents for the discussion of questions of common interest;
 4. To support international organizations, which already exist or are in process of formation, by lending them material or other suitable collaboration.
- II. The Bureau will be supervised by a Managing Committee of not more than 25 members, chosen among its adherents. The President of the International Chamber of Commerce, or his alternate, will be ex-officio member of the Managing Committee.
- III. Subject to the approval of the Managing Committee, the following can adhere to the Bureau:
 - (a) as active members:
 1. International cartels;
 2. Individual firms entertaining relations with the former;

(b) as corresponding members:

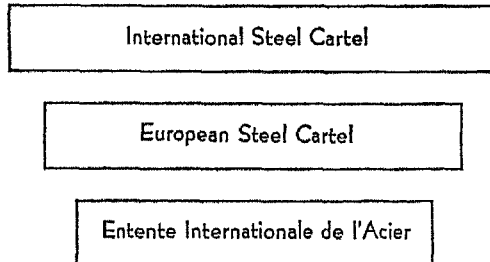
1. Other international organizations dealing with production and marketing;
 2. Business men who are authorities on cartel matters;
 3. Other organizations recognized as suitable for membership by decision of the Managing Committee.
- IV. The work of the Bureau shall be financed by annual subscriptions from its adherents. These funds shall be administered by the President and Vice-Presidents of the Managing Committee.
- V. The seat of the Bureau is in Paris.
- VI. The Managing Committee is empowered to complete or amend the above Statutes as necessary.

Source: Ervin Hexner, *The International Steel Cartel*.

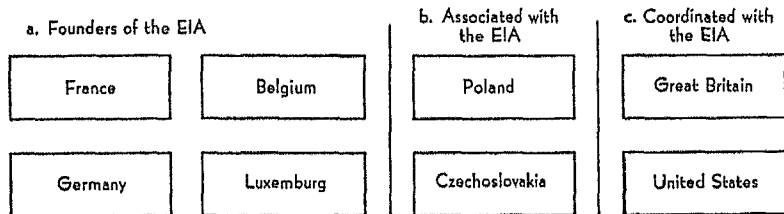
APPENDIX II

BASIC STRUCTURE OF THE INTERNATIONAL STEEL CARTEL

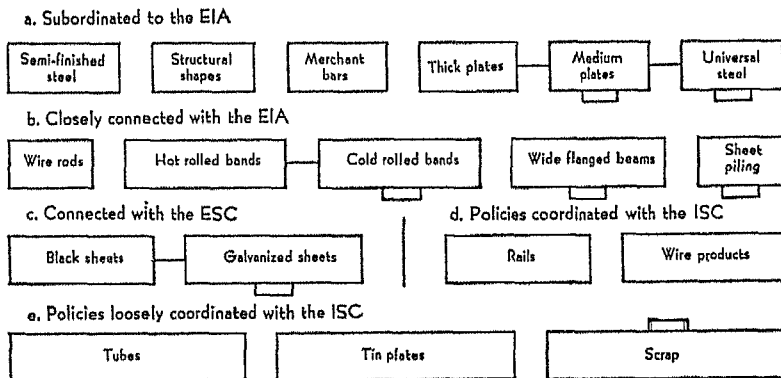
I. GENERAL POLICY-DETERMINING GROUPS



II. NATIONAL GROUPS



III. EXPORT SALES COMPTOIRS



KEY



Source: Ervin Hexner: *The International Steel Cartel*.

APPENDIX III

PARTICIPATION OF SINGLE COMMODITIES IN WORLD EXPORTS ACCORDING TO VALUE

Commodities	Percentage in the value of total exports								
	1929	1930	1931	1932	1933	1934	1935	1936	1937
I. LIVE ANIMALS...	0.95	1.25	1.22	0.82	0.74	0.63	0.73	0.86	0.79
II. FOODSTUFFS AND BEVERAGES:									
Wheat	2.52	2.16	2.19	2.65	2.18	1.96	1.98	2.25	2.30
Rye	0.15	0.12	0.15	0.18	0.12	0.11	0.10	0.10	0.16
Barley	0.41	0.29	0.37	0.37	0.29	0.35	0.29	0.40	0.31
Oats	0.17	0.13	0.13	0.15	0.09	0.11	0.12	0.08	0.08
Corn (maize)...	0.77	0.62	0.80	0.96	0.78	0.88	0.83	0.99	1.14
Millet (incl. durra, etc.)	0.06	0.07	0.06	0.08	0.05	0.08	0.05	0.07	0.05
Rice	1.25	1.37	1.38	1.55	1.25	1.34	1.46	1.35	—
Malt	0.07	0.07	0.08	0.07	0.07	0.08	0.10	0.09	0.09
Flour of wheat	0.75	0.79	0.65	0.67	0.63	0.56	0.53	0.51	0.52
Other products of flour and rice mills	0.12	0.13	0.15	0.19	0.15	0.15	0.13	0.15	—
Flour of potatoes, tapioca, etc.	0.07	—	—	—	—	—	—	0.07	0.09
Legumes, dry	0.27	0.22	0.22	0.26	0.27	0.29	0.26	0.26	0.24
Potatoes	0.16	0.16	0.29	0.27	0.13	0.16	0.15	0.18	0.16
Crude vegetable products	0.35	0.41	0.44	0.50	0.37	0.38	0.33	0.31	0.27
Fruits (incl. tropical and dried)	1.55	1.84	2.11	2.51	2.29	2.12	2.25	—	—
Canned fruits and vegetables	0.37	0.36	0.41	0.48	0.44	0.41	0.45	0.41	0.35
Sugar	2.22	2.10	2.15	2.49	2.14	1.87	1.77	1.87	—
Coffee, raw	1.73	1.48	1.68	1.96	1.96	1.75	1.44	1.43	—
Tea	0.75	0.77	0.87	0.80	0.87	1.01	0.92	0.88	0.81
Maté	0.04	0.04	0.04	0.05	0.04	0.03	0.03	0.02	0.02
Cocoa, raw	0.32	0.32	0.30	0.37	0.34	0.31	0.33	0.43	—
Cocoa preparations (incl. chocolate) ..	0.08	0.08	0.09	0.07	0.06	0.06	0.06	0.06	0.05
Spices	0.19	0.17	0.14	0.15	0.15	0.18	0.16	—	—
Meats and preparations thereof	1.80	2.19	2.25	2.12	2.44	2.05	2.03	1.92	1.74
Canned products of meat	0.19	0.23	0.24	0.21	0.23	0.22	0.22	0.24	0.26
Fish, incl. frozen, dried, smoked	0.67	0.76	0.80	0.79	0.76	0.71	0.66	0.63	—
Fish and products, canned	0.33	0.40	0.39	0.39	0.39	0.38	0.39	—	—
Milk (incl. dried and canned)	0.26	0.28	0.31	0.30	0.27	0.25	0.21	0.21	0.22
Butter	1.24	1.30	1.51	1.46	1.25	1.08	1.24	1.29	1.11
Cheese	0.45	0.49	0.53	0.59	0.53	0.47	0.44	0.43	0.37
Eggs in all forms	0.62	0.65	0.71	0.70	0.54	0.48	0.46	0.48	0.42
Lard and suet	0.47	0.43	0.42	0.41	0.39	0.27	0.31	0.26	0.24
Vegetable oils and fats	0.95	1.17	0.98	0.99	0.95	0.80	1.12	—	—
Hardened animal and vegetable fat oils and greases	0.09	?	?	0.09	0.09	0.06	0.08	0.08	0.09
Margarine and similar edible fats	0.06	0.08	0.10	0.04	0.03	0.02	0.02	0.01	0.01
Salt, edible	0.07	0.06	0.07	0.08	0.09	0.09	0.08	0.08	0.07
Distilled alcoholic beverages	0.34	0.36	0.34	0.35	0.35	0.51	0.42	0.52	0.46
Wine and grape must	0.62	0.74	0.82	1.05	1.28	0.89	0.78	—	—
Beer	0.17	0.21	0.23	0.22	0.23	0.20	0.19	0.18	0.15
III. RAW MATERIALS AND SEMI-FINISHED PRODUCTS:									
Natural silk (including waste and floss silk)	1.80	1.28	1.38	1.19	0.93	0.67	0.83	0.76	0.66
Sheep's wool	2.13	1.52	1.54	1.70	2.09	2.55	2.00	2.38	2.39
Other animal hair (excl. horsehair)	0.13	0.10	0.09	0.08	0.11	0.11	0.11	0.15	0.13
Waste of wool and of fine animal hair ..	0.19	—	—	0.10	0.14	0.13	0.14	0.17	0.15
Wool and animal hair—combed	0.27	0.23	0.25	0.30	0.37	0.35	0.34	0.35	0.30
Raw cotton (including waste)	4.34	3.68	3.34	4.15	4.58	4.26	4.33	4.12	3.50
Flax and flax tow	0.21	0.16	0.13	0.18	0.20	0.22	0.27	0.28	0.20

PARTICIPATION OF SINGLE COMMODITIES IN WORLD EXPORTS ACCORDING TO VALUE
(Continued)

Commodities	Percentage in the value of total exports									
	1929	1930	1931	1932	1933	1934	1935	1936	1937	
Hemp and hemp tow.	0.09	0.07	0.06	0.06	0.08	0.10	0.11	0.08	0.10	
Jute, raw (excluding tow).....	0.34	0.22	0.23	0.20	0.25	0.22	0.27	0.26	0.25	
Other vegetable textile fibres.....	0.25	0.22	0.17	0.18	0.19	0.18	0.21	0.27	—	
Rags.....	0.17	0.14	0.11	0.11	0.14	0.19	0.20	0.21	0.23	
Stuffing material of vegetable origin...	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	
Vegetable materials for plaiting and carving incl. vegetable fibres for brooms and brushes.....	0.12	—	—	0.13	0.13	0.13	0.12	0.12	0.11	
Fur skins, undressed.....	0.62	0.56	0.55	0.47	0.56	0.52	0.49	0.57	0.49	
Hides of cattle, undressed.....	0.66	0.62	0.56	0.48	0.64	0.62	0.66	0.67	0.74	
Other hides and skins, undressed.....	0.50	0.44	0.38	0.35	0.43	0.44	0.40	0.47	—	
Bristles.....	0.05	0.06	0.04	0.06	0.05	0.07	0.07	0.08	0.07	
Feathers.....	0.07	0.06	0.07	0.06	0.05	0.07	0.06	0.05	0.07	
Intestines.....	0.14	0.15	0.14	0.16	0.19	0.21	0.20	0.16	0.14	
Products of marine animals.....	0.07	0.07	0.07	0.10	0.08	0.07	0.08	0.10	0.10	
Plants and products of horticulture...	0.12	0.15	0.16	0.14	0.14	0.16	0.15	0.14	0.12	
Hops.....	0.03	0.03	0.03	0.04	0.11	0.12	0.09	0.08	0.06	
Tobacco, unmanufactured, incl. waste.	1.06	1.22	1.31	1.20	1.24	1.28	1.42	1.33	1.16	
Seeds (excluding oil seeds).....	0.14	0.16	0.17	0.18	0.19	0.25	0.21	0.18	0.16	
Oil-seeds, nuts and kernels.....	1.78	1.54	1.56	1.64	1.76	1.48	1.69	1.99	—	
Oil-seed cake and meal.....	0.52	0.42	0.49	0.48	0.48	0.39	0.38	0.36	0.37	
Offals from the preparation of cereals...	0.15	0.14	0.14	0.17	0.14	0.17	0.17	0.18	—	
Cork, raw (including waste).....	0.05	0.04	0.03	0.03	0.04	0.04	0.04	—	—	
Timber and pulpwood.....	2.33	2.35	2.01	1.78	2.06	2.40	2.17	2.12	—	
Pulp.....	0.69	0.60	0.86	0.84	0.96	0.99	0.99	1.02	1.12	
Vegetable raw material for dyeing and tanning.....	0.06	0.07	0.07	0.07	0.08	0.07	0.08	0.06	0.06	
Gums, resins, and balsams.....	0.32	0.28	0.24	0.24	0.28	0.33	0.28	0.28	0.27	
Crude rubber and rubber substitutes (gutta percha, balata, etc.)....	1.27	0.95	0.63	0.45	0.75	1.48	1.28	1.43	2.10	
Coal, bituminous.....	2.07	2.38	2.64	2.60	2.53	2.48	2.35	2.14	2.28	
Lignite.....	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.03	0.03	
Coke.....	0.35	0.37	0.38	0.36	0.35	0.39	0.39	0.38	0.45	
Briquettes of coal.....	0.05	0.06	0.08	0.08	0.10	0.07	0.07	0.06	0.06	
Briquettes of lignite.....	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.04	0.03	
Tar oils derived from coal.....	0.11	0.09	0.08	0.10	0.10	0.11	0.10	0.12	0.12	
Petrol, crude.....	0.74	0.87	0.84	1.17	1.20	1.50	1.52	1.45	—	
Gasoline (motor spirit).....	1.50	1.88	1.46	1.75	1.47	1.34	1.32	1.21	—	
Illuminating oil.....	0.49	0.48	0.41	0.46	0.41	0.36	0.33	0.31	—	
Gas oil and fuel oil.....	0.37	0.47	0.51	0.65	0.78	0.89	0.80	0.87	—	
Lubricating oil.....	0.43	0.47	0.49	0.57	0.58	0.51	0.52	0.46	—	
Natural and petrol asphalt.....	0.07	—	—	0.08	0.08	0.09	0.08	0.06	0.05	
Asbestos.....	0.06	—	—	0.05	0.07	0.07	0.08	0.09	0.10	
Precious and half-precious stones (including synthetically made)....	0.53	—	—	0.38	—	0.41	0.39	0.47	0.42	
Cement.....	0.20	0.23	0.21	0.19	0.18	0.18	0.17	0.18	0.15	
Sulphur.....	0.08	0.09	0.10	0.13	0.14	0.11	0.10	0.11	0.11	
Fertilizers.....	1.15	1.17	1.24	1.10	1.17	1.24	1.20	1.16	1.10	
Ores (incl. iron, copper, bauxite, zinc, tin, manganese).....	1.18	1.20	0.99	0.78	1.02	1.41	1.55	—	—	
Iron and steel scrap.....	0.13	0.11	0.09	0.09	0.16	0.24	0.26	0.27	0.47	
Pig iron, ferro alloys and semi-finished steel.....	0.39	0.39	0.39	0.31	0.33	0.38	0.42	0.43	0.60	

PARTICIPATION OF SINGLE COMMODITIES IN WORLD EXPORTS ACCORDING TO VALUE
(Continued)

Commodities	Percentage in the value of total exports								
	1929	1930	1931	1932	1933	1934	1935	1936	1937
Copper, raw (incl. scrap and alloys) . .	1.41	1.21	0.98	0.74	0.80	0.99	1.13	1.08	1.63
Nickel	0.09	0.07	0.08	0.10	0.16	0.18	0.24	0.26	0.26
Aluminum	0.12	0.11	0.12	0.09	0.14	0.14	0.15	0.13	0.17
Lead	0.35	0.36	0.34	0.27	0.25	0.27	0.31	0.34	0.42
Zinc	0.18	0.15	0.14	0.15	0.16	0.18	0.17	0.17	0.23
Tin	0.50	0.42	0.36	0.31	0.63	0.64	0.76	0.74	0.80
IV. MANUFACTURED PRODUCTS:									
Yarns and thread of artificial textiles . .	0.31	0.35	0.40	0.45	0.47	0.53	0.45	0.37	0.37
Thrown silk and other silk yarns and thread	0.09	0.09	0.09	0.08	0.07	0.08	0.07	0.06	0.05
Yarns of wool and hair	0.59	0.56	0.58	0.50	0.55	0.56	0.47	0.47	0.42
Cotton yarn and thread	0.90	0.85	0.86	0.97	0.96	0.96	0.89	0.80	0.77
Yarns of flax, hemp and ramie	0.13	—	—	0.12	0.13	0.15	0.14	0.11	0.11
Yarns of jute	0.03	—	—	0.02	0.02	0.02	0.02	0.02	0.01
Fabrics of silk, artificial textiles and paper yarns	1.31	1.36	1.46	1.28	1.24	1.16	1.04	0.98	0.90
Fabrics of wool and hair	1.41	1.35	1.35	1.06	1.05	1.06	0.97	1.00	0.98
Fabrics of cotton	4.06	3.56	3.39	3.86	3.63	3.48	3.19	3.00	2.95
Fabrics of flax, hemp, and ramie	0.14	—	—	0.16	0.17	0.17	0.16	0.18	0.13
Fabrics of jute	0.44	0.35	0.26	0.28	0.34	0.32	0.33	0.34	0.31
Knitted articles	0.73	0.77	0.76	0.57	0.57	0.51	0.48	0.47	0.41
Other garments and underwear	0.87	0.95	0.95	0.80	0.78	0.76	0.74	0.75	0.71
Hats and hat bodies of felt	0.21	0.15	0.13	0.14	0.10	0.12	0.12	0.11	0.10
Other hats and hat bodies (incl. caps) and hoods of all materials	0.14	—	—	0.15	0.13	0.13	0.11	0.09	0.08
Jute bags or sacks, not used	0.33	0.32	0.28	0.32	0.29	0.28	0.28	0.26	0.27
Ropes and twines and manufactures thereof	0.16	0.17	0.17	0.15	0.16	0.15	0.16	0.15	0.11
Linoleum and similar products	0.07	0.06	0.05	0.06	0.05	0.06	0.06	0.06	0.06
Leather	0.82	0.86	0.85	0.72	0.75	0.64	0.66	0.64	0.53
Footwear of leather	0.29	0.30	0.36	0.26	0.24	0.23	0.18	0.19	0.15
Other manufactures of leather	0.24	0.27	0.31	0.24	0.24	0.21	0.20	0.19	0.19
Furs, dressed and made up	0.40	0.41	0.45	0.37	0.33	0.27	0.25	0.26	0.25
Veneers and plywood	0.11	0.12	0.14	0.15	0.16	0.19	0.20	0.21	0.20
Other articles of wood (incl. furniture)	0.43	0.44	0.44	0.39	0.39	0.36	0.36	0.34	0.35
Manufactures of cork	0.10	0.10	0.06	0.06	0.07	0.07	0.07	—	—
Articles of vegetable plaiting materials (excl. hats and hat bodies)	0.11	—	—	0.11	0.10	0.09	0.08	0.08	0.07
Paper and manufactures thereof	1.67	1.90	2.11	2.19	1.93	1.84	1.87	1.88	1.87
Books and music notes	0.23	0.27	0.29	0.30	0.28	0.27	0.27	0.25	0.21
Other products of printing industries	0.14	0.14	0.17	0.22	0.17	0.19	0.20	0.21	0.13
Articles of celluloids and similar materials, Galalith, Bakelite (excl. films)	0.07	0.08	0.10	0.10	0.10	0.10	0.10	0.10	0.09
Films, plates, and paper for photography	0.17	0.20	0.25	0.30	0.24	0.28	0.28	0.25	0.22
Rubber tires	0.41	0.44	0.41	0.37	0.37	0.33	0.30	0.29	0.29
Other articles of rubber	0.29	0.31	0.32	0.29	0.27	0.24	0.23	0.23	0.22
Chemical and pharmaceutical products	1.32	1.45	1.74	1.97	2.11	2.02	2.02	1.85	1.74
Tanning extracts (incl. synthetic tanning materials)	0.09	0.11	0.12	0.12	0.14	0.14	0.14	0.13	0.11

PARTICIPATION OF SINGLE COMMODITIES IN WORLD EXPORTS ACCORDING TO VALUE
(Continued)

Commodities	Percentage in the value of total exports								
	1929	1930	1931	1932	1933	1934	1935	1936	1937
Dyestuffs, coloring substances and blacks.	0.67	0.72	0.85	0.94	1.01	1.03	1.02	0.95	0.84
Essential oils (incl. synthetically produced).....	0.13	0.12	0.12	0.13	0.14	0.14	0.16	0.15	0.14
Perfumery, cosmetics.....	0.16	0.17	0.18	0.17	0.17	0.17	0.17	0.15	0.14
Soaps.....	0.16	0.18	0.19	0.20	0.18	0.16	0.15	0.13	0.12
Starch and starchy substances.....	0.04	—	—	0.06	0.05	0.05	0.05	0.04	0.04
Paraffin wax.....	0.10	—	—	0.12	0.14	0.13	0.12	0.09	0.12
Explosives.....	0.07	—	—	0.09	0.11	0.12	0.12	0.13	0.14
Matches.....	0.09	—	—	0.07	0.07	0.06	0.06	0.04	0.04
Pottery and other clay products.....	0.45	0.45	0.45	0.43	0.43	0.45	0.44	0.41	0.40
Glass and glassware.....	0.55	0.55	0.61	0.59	0.61	0.59	0.56	0.52	0.48
Articles of iron and steel.....	4.67	4.84	4.79	4.35	4.38	5.13	4.92	4.84	—
Articles of copper.....	0.59	0.66	0.65	0.56	0.61	0.58	0.57	0.53	0.60
Articles of aluminum.....	0.11	0.12	0.11	0.13	0.12	0.12	0.12	0.13	0.14
Articles of other non-precious metal...	0.38	0.40	0.38	0.37	0.39	0.41	0.41	0.38	0.37
Machinery and steam boilers (incl. appliances).....	4.00	4.39	4.25	3.91	3.35	3.64	3.86	4.12	4.38
Electrical machinery, apparatus and appliances (incl. bulbs and tubes)..	1.69	2.03	2.15	1.96	1.76	1.89	1.95	1.98	2.00
Steam locomotives (incl. tenders).....	0.15	0.17	0.11	0.05	0.06	0.06	0.12	0.11	0.09
Railway cars.....	0.19	—	—	0.10	0.07	0.09	0.16	0.15	0.16
Tractors and similar vehicles (incl. parts).....	0.28	0.35	0.24	0.07	0.07	0.10	0.13	0.18	0.27
Automobiles (incl. parts).....	2.38	1.69	1.43	1.27	1.43	1.94	2.17	2.22	2.45
Motor cycles, side cars (incl. parts)...	0.09	0.09	0.07	0.05	0.05	0.05	0.05	0.05	0.06
Cycles and parts.....	0.12	0.11	0.11	0.11	0.15	0.17	0.18	0.19	0.21
Ships.....	0.43	0.57	0.59	0.37	0.29	0.22	0.30	0.35	0.43
Aircraft and parts.....	0.10	—	—	0.14	0.13	0.16	0.20	0.20	0.25
All kinds of arms and armament (incl. ammunition).....	0.18	—	—	0.26	0.30	0.32	0.31	0.33	0.32
Optical, scientific and similar instruments and appliances.....	0.30	0.34	0.36	0.37	0.36	0.34	0.38	0.40	0.40
Watches, clocks, and parts.....	0.25	0.26	0.23	0.22	0.25	0.28	0.31	0.30	0.31
Musical instruments (incl. phonographs and records).....	0.25	0.21	0.16	0.13	0.11	0.12	0.12	0.13	0.12
Toys, games, and sports goods.....	0.20	0.22	0.22	0.22	0.21	0.20	0.21	0.21	0.19
Cigars.....	0.06	—	—	0.06	0.06	0.06	0.05	0.04	—
Cigarettes.....	0.26	0.25	0.22	0.22	0.20	0.19	0.21	0.21	0.19
Tobacco (incl. chewing tobacco).....	0.06	—	—	0.07	0.07	0.06	0.05	0.05	0.04

Source: *Statistisches Jahrbuch für das Deutsche Reich*. Notes concerning the methods according to which these figures were computed are not reprinted here. The reader will notice that gold, goldware, silver, silverware, electric energy, and invisible exports are not included. He will do well to compare the figures here listed with the respective figures of the League of Nations.

APPENDIX IV

THE TEXT OF THE DÜSSELDORF AGREEMENT

16th March, 1939

JOINT DECLARATION BY THE REICHSGRUPPE INDUSTRIE AND THE FEDERATION OF BRITISH INDUSTRIES ON THE RESULTS OF THE CONVENTION HELD AT DÜSSELDORF, 15TH AND 16TH MARCH, 1939.

The Reichsgruppe Industrie and the Federation of British Industries, having concluded a general discussion on Anglo-German trade relations, issue the following agreed statement:

1. The two organisations welcome the opportunity which these discussions have given of developing still further the friendly relations which have existed between the two bodies for so many years.

2. The two organisations recognise that both for Germany and for Great Britain a substantial and profitable export trade is vital to their economic life.

3. The two organisations recognise that the object of this export trade must be to give employment to their people, to improve their standard of living, and to provide a volume of foreign currency sufficient for their economic needs.

4. The two bodies are agreed that the objective to be attained is that the export of all countries should be conducted in such a way as to ensure a fair return for the producers of those countries. Hence it is agreed that it is essential to replace destructive competition wherever it may be found by constructive co-operation, designed to foster the expansion of world trade, to the mutual benefit of Great Britain, Germany and all other countries.

5. The two organisations are agreed that it is desirable that individual industries in both countries should endeavor to arrive at industrial agreements which will eliminate destructive competition, wherever occurring, but prices must be fixed at such a level as not to diminish the buying power of the consumers.

6. The two organisations realise that agreements upon prices or other factors between Germany and Great Britain are only a step, although a most important step, toward a more ordered system of world trade. They would welcome the participation of other nations in such agreements.

7. The two organisations are of the opinion that negotiations should be started immediately between those industries which are already organised for the purpose. They are further agreed that the wider the area of such agreements, both as to industries and countries, the more rapidly will international trade be established on a permanently progressive and profitable basis.

8. The two organisations realise that in certain cases the advantages of agreements between the industries of two countries or of a group of countries may be nullified by competition from the industry in some other country that refuses to become a party to the agreement. In such circumstances it may be necessary for the organisations to obtain the help of their Governments and the two organisations agree to collaborate in seeking that help.

9. The two organisations agree that it is their objective to ensure that as a result of an agreement between their industries unhealthy competition shall be removed. Their aim is to secure as complete co-operation as possible throughout the industrial structure of their respective countries.

10. The two organisations have agreed to use their best endeavours to promote and foster negotiations between individual industries in their respective countries. They are encouraged in this task owing to the fact that a considerable number of agreements between individual German and British industrial groups are already in existence. There is thus available a large body of experience which inspires confidence that an immediate extension of this policy is both practicable and advantageous.

They are glad to state that approximately a further 50 industrial groups have already signified their willingness in principle to negotiate at an early date.

They also report with satisfaction that negotiations have already been started and are now taking place between 10 industrial groups.

11. In conclusion, the Reichsgruppe Industrie and the Federation of British Industries feels that the problem is not merely one of eliminating undesirable competition, but of taking concrete steps to increase world consumption of the products in which German and British industry are interested. They have, therefore, decided to maintain closer and more active relations with regard to this matter. They also recommend to individual industries that an effort should be made in any agreements that may be concluded for joint action to increase world consumption of the products in which they are interested. Again, this joint action should be considered as the precursor to a wider international collaboration between industries designed with a view to increasing world consumption and consequently production, to the benefit of all concerned.

12. The ultimate objective must be to increase world prosperity. The Reichsgruppe Industrie and the Federation of British Industries believe that

the result of their discussions has been to lay a sound foundation upon which individual industries can usefully begin with mutual advantage.

In order to ensure the success of this policy it has been agreed between the Reichsgruppe Industrie and the Federation of British Industries to form a Standing Committee of the two organisations, which will meet regularly to review progress. The Federation of British Industries have invited the German members of this Joint Committee to pay a visit to England in June for this purpose, and this invitation has been accepted by their German colleagues.

Source: *Parliamentary Debates, House of Commons Official Report*, March 21, 1939, 345 H. C. Deb., 5 s. cols. 1107-1109.

APPENDIX VI

LETTER OF THE PRESIDENT OF THE UNITED STATES TO THE SECRETARY OF STATE CONCERNING CARTEL POLICIES

September 6, 1944

To the Secretary of State:

Dear Mr. Secretary: During the past half century the United States has developed a tradition in opposition to private monopolies. The Sherman and Clayton Acts have become as much a part of the American way of life as the due-process clause of the Constitution. By protecting the consumer against monopoly these statutes guarantee him the benefits of competition.

This policy goes hand in glove with the liberal principles of international trade for which you have stood through many years of public service. The trading agreement program has as its objective the elimination of barriers to the free flow of trade in international commerce; the antitrust statutes aim at the elimination of monopolistic restraints of trade in interstate and foreign commerce.

Unfortunately, a number of foreign countries, particularly in continental Europe, do not possess such a tradition against cartels. On the contrary, cartels have received encouragement from some of these governments. Especially is this true with respect to Germany. Moreover, cartels were utilized by the Nazis as governmental instrumentalities to achieve political ends. The history of the use of the I. G. Farben trust by the Nazis reads like a detective story. Defeat of the Nazi armies will have to be followed by the eradication of these weapons of economic warfare. But more than elimination of the political activities of German cartels will be required. Cartel practices which restrict the free flow of goods in foreign commerce will have to be curbed. With international trade involved, this end can be achieved only through collaborative action by the United Nations.

I hope that you will keep your eyes on this whole subject of international cartels, because we are approaching the time when discussions will almost certainly arise between us and other nations.

Very sincerely yours,

FRANKLIN D. ROOSEVELT.

APPENDIX VII

CARTEL RESOLUTION OF THE INTERNATIONAL BUSINESS CONFERENCE, RYE, N. Y., NOVEMBER 18, 1944

REPORT OF THE CARTEL SECTION

1. We attempt a definition of what we are considering. This might be:

Agreements—either between independent private parties or between Governments, or both, which provide, in respect of commodities and raw materials the subject of international trade, for all or any of the following:

Regulation of production

Orderly marketing

Coordination of prices

Exchange of technical “knowledge” and experience, and of patents where they are connected with production or marketing schemes.

This definition is designed to cover international commodity agreements as well as agreements covering semi or fully manufactured products.

2. We note the extent to which such agreements operated in world trade before the war.

It is reasonable to say:

(a) that a substantial part of world trade before the war was conducted under such agreements; but

(b) in the absence of accurate statistical information it is difficult to form a definite view on either the volume or flow of trade affected by them.

3. There are two main opposing views:

The view of those who hold that such agreements whether private or governmental:

Limit trade

Discourage competition

Raise prices

Retard development

Prejudice national security and economy and,

where they are between independent private parties, privately control the direction of trade.

The view of those who hold that such agreements:

- Promote the exchange of technical information and patents
- Improve quality
- Lower costs and,

by keeping supplies at a level which will satisfy and stimulate demand,

- Maintain and increase employment
- Further peaceful relations in trade
- Enable living standards to be raised
- Open and expand markets in an orderly and progressive manner.

4. It is the sense of the Section that it is essential to preserve the benefits of such agreements, and to avoid their use in a manner which is contrary to the public interest of any nation.

We therefore strongly recommend that the governments concerned, in association with their respective business interests, should immediately take steps, continuously to study and consult together on the various issues raised and, in particular, to consider the effect of such agreements in relation to:

- Employment
- Standards of living
- Industrial Development
- Prices
- Volume and flow of trade.

Further, it is vital to economic co-operation between nations, that they reconcile their views and practices in regard to those agreements over as wide an area as possible and establish rules and standards to govern such agreements in international trade.

Source: Mimeographed Report of the International Business Conference.

APPENDIX VIII A

INTERNATIONAL RAIL AGREEMENT (IRMA) OF 1937

AGREEMENT BETWEEN THE RAIL MANUFACTURERS OF AUSTRIA, BELGIUM, CZECHOSLOVAKIA, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, LUXEMBURG, POLAND, THE MARIGREE GROUP, AND THE STEEL EXPORT ASSOCIATION OF AMERICA, AND ON AND FROM THE 1ST AUGUST 1937 THE RAIL MANUFACTURERS OF ITALY

I. OBJECTS OF AGREEMENT

The objects of this Agreement are—

(a) To divide, in the proportions specified in Clause 8, among the various Groups which are parties to this Agreement, the total tonnage of orders for the material defined in Clause 2 for Export, subject to the right of each Group to its Reserved Areas as defined in Clause 9.

(b) To allocate work or otherwise deal with manufacturers not parties to this Agreement, in accordance with any future subsidiary Agreements.

(c) The trade in the products hereinafter defined within the Domestic Territories of the following Groups: Belgian, British, Czechoslovak-Austrian, French, German, Hungarian, Luxemburg, Marigree, Polish, Italian, is not covered by this Agreement, and this Agreement shall not be construed as in any way referring to such trade.

(d) It is understood that The Steel Export Association of America (hereinafter referred to as "the American Group") is an Association constituted under an Act of Congress of the United States of America, approved April 10th, 1918, and entitled "An Act to promote export trade, and for other purposes," commonly known as "the Export Trade Act." As used in this paragraph the term "United States" shall have the meaning given in the Export Trade Act. Material sold in the United States, other than for export, and sold for export to the United States, shall not be covered by this Agreement, and this Agreement shall not be construed as in any way referring to trade in material so sold, and shall not be allowed directly or indirectly to restrain trade within the United States or the export trade of any domestic competitor of the American Group, or to enhance or depress prices of such material, or to lessen competition therein within the United States.

2. SCOPE OF AGREEMENT

(a) All Perfect and Defective Rails 36 lbs. per yard 17.85 Kg. per metre and upwards (excluding grooved Tram Rails and Crane Rails) for whatever purpose they may be exported, including all rolled sections of Fishplates (Continuous Joints), Soleplates (Tieplates), Combined Fish and Soleplates and Conductivity Rails, Guide or Guard Rails when in the shape of a Rail, shall come within the scope of this Agreement.

(b) Any Group, however, required to supply Soleplates fixed on sleepers in such a way that they cannot be separated, as for instance by welding, need not report the enquiry for allotment, but the weight of the Soleplates thus supplied shall be reported immediately on receipt of the order and debited to the supplying Group.

3. PARTLY FINISHED STEEL FOR EXPORT

(a) No Ingots, Blooms, or other partly finished steel to be used for the manufacture of Rails or any Defective Rails to be rerolled into new Rails, and no Rolled Bars to be used for the manufacture of Fishplates (Continuous Joints) or Soleplates (Tieplates) shall be sold by any of the Groups for delivery in the Reserved Areas of any other Group or into Neutral Countries.

(b) Subject to the provisions of Clause I (d), no Member of the Association shall knowingly supply semifinished material for the manufacture of Rails, Fishplates (Continuous Joints) or Soleplates (Tieplates) to Rolling Mills or Makers not Members of the Association, or assist Outside Makers or New Works in this way to compete with the Association.

(c) The London Committee, however, may authorize delivery into Neutral Countries of rolled bars to be used for the manufacture of Fish or Soleplates if, in their opinion, there is reason to believe that such orders might otherwise be taken by Outsiders and, in that case, half of the tonnage involved shall be debited to the Group delivering the rolled bars.

4. COMMENCEMENT OF AGREEMENT

The operation of this Agreement shall commence as from 1st August 1935, inclusive.

5. MANAGEMENT

(a) The management is entrusted to a Committee, hereinafter called the Management Committee, composed of four American, three Belgian, four British, four French, four German, two Marigree, two Luxemburg, two Czechoslovak-Austrian, one Hungarian, three Polish representatives, and one Italian representative, but only one representative of each Group may vote. Each Group shall have the following votes:

Group	From Aug. 1, 1935, to Jan. 31, 1937 inclusive (votes)	From Feb. 1, 1937, to July 31, 1940 inclusive (votes)
British	23,868	28,371
American	13,457	12,636
French	14,909	13,999
German	16,839	15,809
Belgian	7,488	7,032
Luxemburg	4,195	3,938
Marigree	4,644	4,360
Czechoslovak-Austrian	2,722	2,555
Hungarian	1,878	1,763
Polish	10,000	9,537
Total ..	100,000	100,000

(b) On the demand of any Group, the Management Committee shall be convened by the General Secretary to meet within 15 days from the date of such demand.

(c) The general administration of the affairs is entrusted to a committee situated in London, hereinafter called the London Committee. This Committee shall be presided over by a General Secretary, appointed by the Management Committee, and will include one representative of each Group. The duties of the London Committee and of the General Secretary shall be to ensure the execution of all the instructions of the Management Committee as well as the regular working of the Agreement. Questions of allocations of work, of prices and conditions, etc., shall be considered by the London Committee, who will meet as often as necessary for the consideration of current matters. In the event of disagreement between the London Committee, reference shall be immediately made to the Management Committee, who shall decide by a majority of votes.

The London Committee shall have the right to take cognisance of all the correspondence exchanged between the General Secretary and the parties to this Agreement (except personal correspondence) in reference to matters to be dealt with by the London Committee, as also of all the documents relating to business negotiated.

(d) Any Member of the Management Committee may be represented at Meetings of that Committee by another Member or substitute authorized in writing.

6. ORDERS COMING WITHIN SCOPE OF AGREEMENT

(a) Allotments made or renewed between 1st August, 1935, and 31st January 1937, at the end of Pool I, and Orders resulting therefrom, shall be debited against that Pool, and the same regulations shall apply at the end of each of the Pools referred to in Clause 7; subject to the terms of subsection (b) of this Clause.

(b) When a Group is in excess 10 percent of its quota one month prior to the closing of a Pool, the Orders booked by that Group during the last month of any of the Pools, with the exception of the last Pool, shall be carried forward to the subsequent Pool.

7. DURATION OF AGREEMENT

(a) This Agreement shall remain in force until 31st July, 1940, inclusive, unless determined for causes mentioned in paragraph (b) and subject to any Group having the right to withdraw from the I. R. M. A. at the expiration of the third year.

The first two Pools to be for a period of eighteen months each, and at the end of the third year the Association will determine whether there shall be two further Pools of one year each or only one Pool of two years.

(b) If the competition of works not parties to this Agreement and established in the territory of a Group becomes in the opinion of any Group too serious, any Group may give two months' notice to terminate the Agreement, but this notice shall not be given until the situation has been examined by the Management Committee, which shall be convened by the General Secretary as soon as possible at the request of any Group.

8. PROPORTIONS

(a) The Export Orders referred to in this Agreement shall be apportioned as follows:

	From Aug. 1, 1935, to Jan. 31, 1937, inclusive Percent	From Feb. 1, 1937, to July 31, 1940, inclusive Percent
British Group	23.500	28.000
American Group	13.250	12.471
French Group	14.679	13.816
German Group	16.578	15.603
Belgian Group	7.374	6.940
Luxemburg Group	4.130	3.887
Marigree Group	4.572	4.303
Czechoslovak-Austrian Group	2.680	2.522
Hungarian Group	1.849	1.740
"Baume & Nimy" Works	1.388	1.306
Polish Group	10.000	9.412
Total	100.000	100.000

Separate Agreements dated 26th July, 1935, have been entered into with the Polish, Czechoslovak-Austrian and Hungarian Groups, and with the German Group for Barter Business, copies of which are set out on pages 18, 19, 20, 21, 22, and 23 of this Agreement.*

The terms of the arrangement with the "Baume & Nimy" Works are set out on page 24 of this Agreement.*

The Agreement with the Italian makers provides that on and from 1st August, 1937, up to and including 31st July, 1940, the Italian Group become parties to the Agreement, with quotas varying between 0.50 percent and 1 percent, according to total tonnage taken. The terms of the Agreement with the Italians are set out on page 25 of this Agreement.*

(b) No party or parties to this Agreement may negotiate arrangements affecting this Agreement with any Maker or Makers not parties thereto, without the approval of the Management Committee.

(c) The purchase of any tonnage from parties to this Agreement, or from a Maker or Makers not parties thereto, may only be negotiated by the General Secretary for the benefit of the parties to this Agreement. Nevertheless, if there is more than one Group in the same Country, transfers of all or part of their quotas are authorized between the Groups of that same Country, and notification shall immediately be made in each case to the Management Committee.

(d) The direct transfer of quotas is also allowed between two Works in different Countries and belonging to different Groups, with the consent of the Groups concerned, if one of these Works is owned or worked by the other. Ownership is defined by the possession of at least 40 percent of the capital of the Works in question. Notification of these transfers shall be made in each case to the Management Committee. These transfers shall be provisional and shall be valid only for the duration of a Pool, but may be renewed.

9. RESERVED AREAS

Division of Export Orders and Reporting of Enquiries, etc.

(a) It is agreed that the British Group reserves to itself the orders destined for the following Reserved Areas, subject to the right of the works in these Areas to accept orders for their respective Territories without debit:

The British Indies, Self-Governing Dominions, Dependencies, Protectorates and Territories administered by Charter; English Autonomous Colonies and Egyptian War Office and Anglo-Egyptian Sudan, and Countries under British Mandate. A list of these is shown in the Schedule attached hereto.*

(b) It is agreed that the American Group reserves to itself the orders destined for Cuba and Republic of Panama.

(c) It is agreed that the French Group and the French Works of the Marigree Group reserve to themselves the orders destined for the New Hebrides (jointly with British Group) and for Countries under French Mandate, a list of these is shown in the Schedule attached hereto.*

(d) It is agreed that the Belgian Group, the Luxemburg Group and the Belgian and Luxemburg Works of the Marigree Group, reserve to

* These separate agreements are not included in this Appendix.

themselves the orders destined for Countries under Belgian Mandate, a list of these is shown in the Schedule attached hereto.*

(e) Orders from any of the Reserved Areas under this Clause shall be included as part of the proportions of the respective Groups under Clause 8.

(f) The Group entitled to the orders from Reserved Areas shall fix the price and conditions for such orders and the protection necessary, subject to the provisions of Clause 20. In the case of objection by any Group to the amount of protection, the amount thereof shall be fixed by the Management Committee.

(g) *Enquiries* or firm offers for 1,000 metric tons and over from any of the Reserved Areas under this Clause shall be immediately reported to the London Committee. As soon as such enquiries or firm offers are reported by any Group from its Reserved Areas, it shall be debited with the same as allotments, if the Group concerned decides to submit an offer other than for estimating purposes.

(h) When a Country under Mandate, referred to in Sub-Sections (a), (c), and (d) of this Clause, is de-mandated, it shall no longer be a Reserved Area, unless there are special circumstances, in which case the Management Committee will consider the position and decide.

10. UNRESERVED AREAS

(a) *Enquiries* for less than 500 metric tons of Rails only or Fishplates (Continuous Joints) Soleplates (Tieplates) for Unreserved Areas may be negotiated direct by any Group, at the prices fixed from time to time by the Management Committee.

(b) When, however, "*Baume and Nimy*" are more in deficit than the other Groups all Enquiries for Fishplates and Soleplates of 25 metric tons and over for neutral markets are to be reported to the London Committee until such time as "*Baume and Nimy*" are not the most in deficit.

This procedure to be put into operation as soon as the London Committee advise the Groups that "*Baume and Nimy*" are more entitled to business than any other Group.

(c) All enquiries, firm offers, and requests for Emergency Prices for 500 metric tons and over, of Rails or Fishplates (Continuous Joints) or Soleplates (Tieplates) for *Unreserved Areas*, including Defective Rails, shall be immediately reported to the London Committee, and shall stand over for one Meeting, unless special circumstances require a speedier treatment or there is a likelihood of outside competition.

In reporting enquiries and before any quotation can be made or any allotment granted, full particulars, including name of enquirer, consumer, tonnage, section, date of tenders, period of delivery, option, destination, and any other essential information must be given on the form provided.

By destination is meant the country in which the material enquired for shall be used, and where quotations *f. o. t.* or *f. o. b.* port of shipment are authorized a stipulation must be made in the case of enquiries from buyers

other than Railways or their recognised agents that the material shall be shipped to the destination stated.

The London Committee will make known the Group or Groups which shall be appointed to negotiate for and execute the order if obtained. The Group receiving the allotment of an enquiry from Areas not Reserved shall be entitled to quote not less than the price fixed under Clause 13 and to fix the protection by the other Groups.

(d) *Allotments*.—As a general rule, the business in view shall be allotted in turn to each Group pro rata to its combined percentage made out on the basis of orders reported and allotments made. With a view to ensuring the most satisfactory allotment of enquiries, a Register shall be kept by the General Secretary, in which all the orders received shall be entered in the order in which they are received, as also all allotments made.

(e) For the purpose of arriving at the combined position of orders and allotments, which must serve as the basis for the allotment of business, a ton shall be considered as a half ton, i. e., only 50 percent of the tonnage of an enquiry shall be debited as an allotment, except where a Group is authorized to accept a Firm offer, in which case the full tonnage shall be debited.

(f) Any Group receiving definite information from a Buyer that an order has been placed with that Group, although the physical possession of the order is not in the hands of that Group, shall nevertheless inform the Committee of the fact and be debited with the full tonnage as an Allotment pending receipt of the formal order.

(g) All allotments shall lapse two months after the date of allotment, and at the same time all protective prices quoted by other Groups shall become void, unless such allotment be renewed by the London Committee.

(h) No allotments shall be cancelled without the consent of the London Committee.

(i) Tonnages under option shall be reported and debited as allotments. Immediately the options are exercised they shall be reported and debited as orders.

(j) It is understood that enquiries for the supply of Steel Rails of Acid manufacture, or of Open Hearth manufacture only, shall not be allotted to any Group without its consent, subject to the terms of Clause 18 of this Agreement.

(k) *Orders*.—Particulars of all orders shall be immediately communicated to the General Secretary, together with the dates they were secured, the tonnage, price, name of Buyer and/or Consumer, port and place of destination, periods of delivery, and terms of payment.

(1) *Allocation of Enquiries*.—The Register referred to in Clause 10 (d) will show an approximate position of the orders received by, and allotments made to, each Group, and this position alone shall guide the London Committee when allotting orders in view. In other words, the Group which, after its position of orders and allotments—arrived at as stated

above—shall be most in deficit, this Group shall, by right, be designated to negotiate and obtain the first business which presents itself, and this arrangement will apply until its deficit is less than that of another Group. No allotment shall be made to a Group which is unable to supply the quality demanded.

(m) For special reasons, exceptions may be made to the principle of partition as set forth above, but such exceptions can only be made with the consent of the Group entitled to receive the allotment of an enquiry.

II. PROTECTION

(a) As a general rule minimum protection shall be 5s. (gold) per ton, but when Open Hearth Basic quality or Bessemer Acid quality is protecting ordinary Bessemer Basic quality the protection shall be 12s. 6d. (gold) per ton. When Open Hearth Acid quality is protecting Bessemer Basic quality the protection shall be 15s. (gold) per ton, except in the case of the Barrow Hematite Steel Company, Ltd. (Open Hearth Acid makers), who will be protected by 12s. 6d. (gold) per ton.

These minimum amounts by which each Group shall protect the prices of an Allottee, may be increased by a vote of the Management Committee at any time during the life of this Agreement, at the request of any Group.

(b) The amount of protection to be given to an Allottee may be increased beyond the minimum fixed above for any tender by the unanimous decision of the London Committee. In case of objection by any Group to the amount of protection, the amount thereof shall be fixed by the Management Committee.

(c) It is understood that the object of protection is to induce a Buyer to order material from a Group entitled to take the order, but not to compel a Buyer to order such material from a Group with which he does not wish to place his order, and every Group undertakes not to bring any pressure to bear on a Buyer to persuade him to place an order with a Group other than the Allottee.

(d) Protection shall also extend to deliveries, provided that the period of delivery to be protected claimed by the Allottee does not exceed the following periods counting from the date of the order:

For lots of 5,000 tons and under, delivery f. o. b. to be completed in 4 months.

For lots over 5,000 tons and not exceeding 10,000 tons, delivery f. o. b. to begin in 4 months, and to be completed in 6 months.

For lots over 10,000 tons and not exceeding 20,000 tons, delivery f. o. b. to begin in 4 months and to be completed in 12 months.

For quantities over 20,000 tons the delivery shall be determined by the London Committee.

If a Buyer asks for special conditions of delivery they shall be quoted for by the Allottee, unless otherwise decided by the London Committee.

12. QUALITY NOT SPECIFIED OR OPTIONAL, OR COMPETITION FROM MERCHANTS

(a) When quality is not specified, or when Basic Open Hearth or Basic Bessemer quality is optional, and/or competition of merchants is encountered, the London Committee, in the case of Enquiries of 500 metric tons and over, is authorized to permit Makers of Open Hearth Steel whose Group is in deficit 10 percent or more and is the allottee, without any contributions from the Reserve Fund, to waive all or part of the quality extra of 7s. 6d. (gold) per ton. When, however, Open Hearth Steel only is specified the quality extra is to be maintained, and when protecting Basic Bessemer the protection shall remain at 12s. 6d. (gold) per ton.

(b) In the case of lots of less than 500 metric tons the quality extra may also be waived when any of the above conditions prevail, if a Group is 15 percent in deficit.

13. PRICES FOR UNRESERVED AREAS

(a) The Management Committee shall fix from time to time the minimum prices to apply to all export orders for Unreserved Areas, except for any particular enquiry, the price for which shall be specifically fixed by the London Committee to meet competition from Makers not parties to this Agreement, or for other reasons.

(b) The Groups receiving the allotment of any enquiry shall fix the price for such enquiry subject to the veto by a majority of the votes of the Members of the London Committee, and no quotation shall be made until approval by the London Committee has been notified. In the case of a veto, the London Committee shall fix the price, the Representative of the Group entitled to the allotment having double the amount of votes allotted to his Group in Clause 5.

(c) In case of an allotment to a Group of an enquiry for delivery f. o. b. or f. o. t., the Groups protecting and desiring to quote c. i. f., shall agree the c. i. f. price with the Allottee. In case of an allotment of an enquiry for delivery c. i. f., the Groups protecting and desiring to quote f. o. b. or f. o. t. must agree the price with the Allottee. In case of need these prices shall be fixed by the London Committee.

(d) In case of an enquiry for an "all-round" price for material coming within the scope of this Agreement, the Groups protecting who desire to quote separately for Rails and/or other material within the scope of this Agreement, may only do so with the consent of the Allottee and must agree the prices with him. In case of need these prices shall be fixed by the London Committee.

(e) All offers must specify that final inspection and acceptance of any material under this Agreement shall take place at Makers' Works.

(f) The London Committee shall be empowered to reduce prices previously fixed when outside competition appears after allotment (except in the case of speculation on the part of merchants), the Allottee having in

such case the right to demand that the enquiry be reallocated. In the event of the Allottee declining to reduce his price, or to surrender his allotment, and the order being placed with an Outside Maker, the tonnage so lost shall remain to the debit of the Allottee.

14. EMERGENCY PRICE

The London Committee shall fix an Emergency Price in respect of any enquiry not deemed serious by the Group or Groups reporting same, which price shall become void 14 days after it has been fixed and no offers at Emergency Prices made by any Group shall hold good for any longer period, except with the consent of the London Committee.

15. DISCOUNTS, PAYMENTS, COMMISSION, ETC.

(a) In making quotations for Unreserved Area Orders, Commission must not be allowed to an intermediary, other than an accredited Agent, without the consent of the London Committee and no Discount, Payment, Allowance, or Concession of any sort shall be given, nor shall any conditions be accepted, or anything done whatever which would be equivalent to lowering any price that may have been agreed upon between the Groups or their representatives as the price to be quoted for any orders, or class of orders; nor shall payment be accepted in whole or in part in stocks, shares, debentures, or otherwise than in cash except with the consent of the London Committee, nor shall anything be done which would have the effect of reducing the protection by which any Group or Groups may have undertaken to protect the other Groups for any order or orders.

(b) *The terms of payment for less than 500 metric tons* shall be left to the seller of the material on the foregoing principle, with the following modifications:—

(i) The price shall in all cases be on the basis of "cash against documents at the port of shipment," but for present purposes, payments made within ten/thirty days of the bill of lading date for the respective shipment shall be considered as constituting a sale against "cash against documents at the port of shipment."

(ii) Interest at a rate to be fixed from time to time by the London Committee shall be charged in the price separately for any delayed payment beyond the above-mentioned period.

(iii) When customers request that credit be granted for a period longer than three months from bill of lading date of respective shipment, the request to be submitted to the London Committee, together with suggested interest rate for the Committee's specific approval in each instance.

16. MONTHLY STATEMENTS OF ORDERS TAKEN FOR EXPORT

Statements shall be prepared each month (to the evening of the last day of each month) showing:

- (a) Tonnage of Export Orders taken by each Group.
- (b) Prices f. o. t., f. o. b. nearest Port, or c. i. f.
- (c) Terms of Payment.
- (d) Period of delivery.
- (e) Weight per yard or per metre, and Section.
- (f) Optional tonnage if required.
- (g) Any other important condition.

These statements shall be circulated by the General Secretary to the Groups.

17. QUARTERLY STATEMENTS OF DELIVERIES

Statements shall be prepared every three months showing:

- (a) Tonnage of Export Orders delivered by each Group.
- (b) Prices f. o. t., f. o. b., nearest Port, or c. i. f.
- (c) Terms of Payment.
- (d) Weight of Rail per yard or per metre, and Section.
- (e) Any other important condition.

In these statements the deliveries shall be allocated against the orders to which they apply, so that the undelivered balances may appear in respect of each order. These statements shall be circulated by the General Secretary to the Groups.

18. ARRANGEMENTS CONSEQUENT ON A GROUP REFUSING TO ACCEPT AN ALLOTMENT

Each Group undertakes to accept all allotments made by the London Committee in the terms of Clause 10 for specifications normal to the Group concerned and the usual cash terms of payment.

Groups refusing to accept such allotment shall be debited with the tonnage thereof if the tonnage is placed with an Outside Maker.

19. RESERVE FUND

(a) A Reserve Fund shall be established by a contribution of 6d. (sterling) per ton on all export deliveries, which shall be available for the general charges and expenses appertaining to this Agreement, and also to supplement prices of orders taken at specially low prices to meet competition.

(b) The London Committee is empowered to grant compensation from the Reserve Fund to the amount of 10s. (sterling) per ton for a total quantity of not more than 20,000 tons, without reference to the Management Committee, the condition being that any allocation from this Fund must be in respect of enquiries where there is competition from Outside Makers.

(c) No allocation from this Fund shall be made for the purpose of competing in the Domestic Markets of non-Associated Makers who are

protected by Customs Duties, except with the consent of the Management Committee.

(d) Allocations from the Reserve Fund shall not be paid until the General Secretary has received notice of the despatch of the orders to which the allocations apply.

(e) Any balance of the Reserve Fund unapplied at the termination of this Agreement shall be divided amongst the Groups in the proportions in which it has been contributed.

(f) All contributions received from Outside Makers, Interest on Deposits, and all other monies paid into the Reserve Fund (other than the contribution of 6d. (sterling) per ton on deliveries) shall be utilised in the first place in payment of expenses, and any balance divided at the termination of this Agreement in the proportions mentioned in Clause 8.

20. ARRANGEMENTS TO APPLY WHERE A GROUP IS IN EXCESS
MORE THAN 25,000 TONS

(a) Any Group which is in excess of its percentage of orders by more than 25,000 tons shall throw open to the other Groups the Reserved Areas indicated hereafter, until its excess is again below 25,000 tons:

British Group—South Africa.

American Group—Cuba and the Republic of Panama.

As regards South African business, it is agreed that as and from 1st February 1937, when the British Group is in excess more than 25,000 tons, the British Group, in accordance with the provisions of this Clause, shall open their Markets to the Groups in deficit, but this position shall not prevent the Canadians from delivering the South African tonnage to which they are entitled and, as far as possible, the Canadians are to receive one-third of each South African order.

(b) In cases^{where} where a Reserved Area is thrown open, the Group in deficit entitled to the allotment shall agree the price to be quoted with the Group to which the Reserved Area belongs, but as a rule for equal quality the price shall not be more than 15s. (sterling) per ton below the current market price established by the Group in whose Reserved Area the offer is made. In the event of disagreement, the price to be quoted by the Allottee within this limit shall be fixed by the London Committee. For lots of less than 500 metric tons the same arrangement shall apply.

(c) Any Group in excess of its percentage by more than 25,000 tons of orders must abstain from quoting for Unreserved Areas until its excess becomes less than 25,000 tons.

Nevertheless, after one month the London Committee shall have power to authorise the Group in question to submit offers at protective prices fixed by the London Committee within the terms of Clause II (a) to certain Buyers to be agreed from time to time by the London Committee by a majority vote.

If, by a majority vote, the London Committee agrees that the Buyer confines his purchases to the Group in question, it is understood that the London Committee shall not have the power to insist on the Group in question quoting more than the average price quoted by that Group to the same Buyer during the preceding twelve months prior to the Group in question being 25,000 Tons in excess.

In arriving at the price to be quoted any subsequent increase or decrease in the official basis price of the Association during the period in question shall be taken into reasonable consideration.

(d) A Reserved Area is to be dealt with as an Unreserved Area and subject to the same regulations, for so long as the Reserved Area is thrown open to other Groups, subject to the special provisions of subsection (b) of this clause.

21. COMPENSATION

At the expiration of each Pool of this Agreement, the orders received by the various Groups in excess of their quotas shall be compensated by a payment calculated as follows for each ton in excess:

10s. (gold) per ton up to and including	20,000 tons
20s. (gold) per ton over	20,000 tons

These payments shall be allocated to the Groups in deficit of their quotas, pro rata to such deficit.

The rate of settlement under Clause 2 (a) of the Czecho-Austrian Agreement shall be 15s. (gold) per ton.

In the event of the Polish Group accepting a monetary compensation on any deficit of their minimum Guarantee they shall also be paid compensation at the rate of 15s. (gold) per ton on such deficit.

22. ALL EXPORTS OF EACH COUNTRY TO BE INCLUDED

(a) Each Group undertakes to accept debit for all orders for export manufactured in its own Country by Outside Makers as if such Works were parties to the Agreement.

(b) Each Group undertakes to accept debit for all orders for export manufactured by any Works in its Reserved Areas, established, purchased, controlled, or operated, directly or indirectly, by such Group, or by one of its Members, or by any Director or Official of such Group.

23. OFFERS INDIVISIBLE

A Group submitting prices for an enquiry for Rails, with Fishplates (Continuous Joints) and Soleplates (Tieplates) must stipulate that its offer is indivisible, except with the consent of the London Committee.

24. CANCELLATION OF ORDERS

The London Committee has power to agree the cancellation of any order not exceeding 2,000 tons. No order exceeding 2,000 tons shall be

cancelled without the consent of the Management Committee. Any order cancelled without these authorisations shall remain to the debit of the Group taking the order.

25. AUDIT

The Books of each Group to be subject to examination for the purpose of checking—

- (a) Orders taken.
- (b) Prices.
- (c) Terms of payment and delivery.
- (d) Deliveries made.
- (e) Cancellations.
- (f) Undelivered balances.
- (g) Options.

Each group is responsible for all infringements of this Agreement by any of its Members.

26. TONNAGE

For the purpose of this Agreement 1,016 kilogrammes and 2,240 lbs. shall be considered as a ton.

27. TENDERS

(a) No Group shall quote for an order unless requested to do so by intending purchasers, or except where tenders are invited by advertisement.

(b) Subsection (a) of this Clause shall not apply to the Group most in deficit, or with its consent, to another Group in deficit, when their respective deficits reach:

American, British, French, German, and Polish.....	7,500 tons
Belgian, Luxemburg, and Marigree.....	5,000 tons
Czechoslovak-Austrian and Hungarian.....	2,000 tons

28. RAILS TO REPLACE

Rails supplied free under a guarantee to replace shall not be included in the proportion to which the Group making such free delivery is entitled.

29. INFRINGEMENTS

Any action contrary to the terms of the Agreement, or to the decisions of the Management Committee, or of the London Committee, will be considered an infringement liable to a penalty.

The following actions, although not a complete list, will be particularly considered as infringements of the Agreement:

(a) Acceptance of an order, or of a firm offer, for Unreserved Areas, without being previously assured of the approval of the London Committee, or against its opinion.

(b) Acceptance of an order, even at the protective price fixed by the London Committee, but with a period of delivery shorter than, or at con-

ditions of payment different from, those offered with the approval of the London Committee by the Group holding the allotment.

(c) The abnormally late reporting of an order obtained in a proper manner. Any order received must be reported immediately to the General Secretary, and in any case not later than ten days by the Continental and British Groups, and not later than thirty days by the American Group.

30. PROCEDURE IN CASE OF AN INFRINGEMENT

The London Committee shall decide by a majority of votes, each of its Members in this case being entitled to one vote only, whether an infringement has been committed, in which case the Group in default shall pay 20s. (Gold) per ton on the tonnage involved. This payment is due within 15 days following the decision of the London Committee, unless in the meantime, the Group concerned has recourse to any of the following provisions:

In cases where the decision of the London Committee is not accepted by the Group judged to be in default, such Group may appeal to a Special Committee, consisting of the first Delegate of each Group to the Management Committee, or by his substitute. This Committee will come to a decision by a majority of two-thirds of votes, each of the Members being entitled to 1 vote only. They shall also have power, if unanimous, to reduce the amount of the penalty.

Any Group judged in default refusing to accept the decision of the Special Committee above-mentioned, has the right to demand arbitration. In that case, the Management Committee and the Group interested will each appoint an Arbitrator within a maximum delay of one month. Before the subject matter of the arbitration is disclosed, these two Arbitrators will appoint within a maximum delay of one month an independent person as the third Arbitrator.

The Arbitrators will decide, without appeal, by a majority of votes, taking as a basis the English text of the Agreement, if the Group demanding arbitration be either the English or American Group; the French text, if the Group demanding arbitration be the French, Belgian, Marigree, Luxemburg or Italian Group; and the German text, if the Group demanding arbitration be either the German, Czechoslovak-Austrian, Hungarian or Polish Group.

They will also fix the division of the expenses of the arbitration.

All the Group who are parties to the Agreement undertake to accept the arbitration awards and expressly renounce any recourse to law.

31. DIVISION OF PENALTIES

The amounts paid as the result of infringements shall be paid to a Special Fund, to be divided forthwith between the Groups who are not in default in accordance with their percentages under Clause 8.

Nevertheless, if any Group considers itself particularly injured by an infringement, the Special Committee, acting as provided in Clause 30, shall have power to allot to such Group immediately all, or part of, the sum paid by the defaulting Group.

32. INTERPRETATION

Any difference of opinion regarding the interpretation or the execution of this Agreement will be submitted to the examination of the Special Committee and subsequently if necessary, to arbitration, as provided in Clause 30, within the conditions defined by that Clause.

Signatures

Source: Kilgore Committee, *Mobilization Hearings*, Part 16, pp. 2271 ff.

APPENDIX VIII B

INTERNATIONAL SULPHUR AGREEMENT OF 1934

AGREEMENT¹ BETWEEN THE SULPHUR EXPORT CORPORATION AND THE UFFICIO
PER LA VENDITA DELLO ZOLFO ITALIANO

(Dated August 1st, 1934)

This agreement made this first day of August 1934, between the Sulphur Export Corporation of the State of Delaware, United States of America, hereinafter called the Export Corporation party of the first part, and the Ufficio Per La Vendita Dello Zolfo Italiano a compulsory sales office for all Italian crude sulphur, created by Italian Royal Decree Law of 11th December 1933, No. 1699, hereinafter called the Ufficio party of the second part, witnesseth:

Duration.—This agreement shall continue from year to year beginning August 1st, 1934, it being understood however, that either party may terminate this agreement at any date upon giving six months notice in writing to the other of such intention.

It is also understood and agreed that in the event of any material increase in the present production of elementary sulphur from pyrites this agreement shall be cancelled and become nul and void three months after commencement of such increased production.

It is also understood and agreed that in the event of any new source or new production of elementary sulphur other than from pyrites as heretofore provided arising outside the control of either party which in the opinion of either party may be considered as nullifying or materially detracting from the benefits derived from this agreement then the matter shall be promptly discussed and if no agreement pertaining thereto is reached this agreement shall automatically expire at the end of the third month thereafter.

It is also understood and agreed that in the event of a material change occurring in the present gold value of the U. S. dollar which in the opinion of either party may be considered as nullifying or materially detracting from the benefits derived from this agreement then the matter shall be promptly discussed and if no agreement pertaining thereto is reached this agreement shall automatically terminate thirty days after such failure to reach agreement.

¹ This is a revival of the 1923 agreement which was ineffective after dissolution of the Sicilian consortium in 1932.

Tonnage.—In all the following articles of this agreement dealing with the division or allocation of tonnage, all exports made by other Italian producers or sellers of sulphur shall be included as part of the quota of the Ufficio; and the Ufficio guarantees that Italian producers and sellers of sulphur other than the Ufficio will not export sulphur for acid-making at a reduced price. All exports to the markets covered by this agreement of sulphur produced by the Jefferson Lake Oil Company from their sulphur mine in Iberia Parish in the State of Louisiana and of sulphur produced by the Duval Texas Sulphur Company from their palangana mine in the State of Texas shall for the purpose only of determining quotas and tonnage be considered as made by the Export Corporations.

Markets.—This agreement refers to and covers all sales of sulphur made by the two parties to all countries of the world excepting only:

- (1) The Kingdom of Italy, its dependencies and colonies and
- (2) North America, Cuba, the Islands off the coast of Canada and the insular possessions of the United States of America.

Division of tonnage.—Subject to the conditions and agreements herein set forth all export sales of the two parties to the markets covered by this agreement shall be apportioned on the basis of allowing—

- (1) The Export Corporation and the Ufficio each 50% of the first 480,000 tons of annual invoiced sales;
- (2) The Export Corporation 75% plus 5,000 tons and the Ufficio 25% minus 5,000 tons of annual invoiced sales in excess of 480,000 tons up to 625,000 tons;
- (3) The Export Corporation 90% and the Ufficio 10% of annual invoiced sales in excess of 625,000 tons.

The expression "annual invoice sales" in this clause shall be understood to include all exports of manufactured sulphur from the United States and from the Kingdom of Italy to all countries covered by the agreement as above. For the purpose only of determining quotas or tonnage as herein set forth all exports of manufactured sulphur from the United States and from the Kingdom of Italy to all countries covered by the agreement as above shall also be included.

In making current determinations of allocation of crude sulphur the exports of manufactured sulphur from the Kingdom of Italy shall first be deducted from the share of the Ufficio and similarly the exports of manufactured sulphur from the United States shall first be deducted from the share of the Export Corporation.

For example, assuming the total amount of invoiced sales of crude sulphur plus exports of manufactured sulphur for one year under this agreement is 480,000 tons of which amount 70,000 tons is manufactured sulphur exported from the Kingdom of Italy and 5,000 tons is manufactured sulphur exported from the United States the proportion of each of the parties of the total 480,000 tons being 50% or 240,000 tons, there shall be deducted from the Ufficio's quota of 240,000 tons the amount of

manufactured sulphur exported from the Kingdom of Italy, to wit 70,000 tons, leaving a balance of 170,000 tons of crude sulphur to be sold by the Ufficio; there shall likewise be deducted from the Export Corporation's quota of 240,000 tons the amount of manufactured sulphur exported from the United States to wit 5,000 tons leaving a balance of 235,000 tons of crude sulphur to be sold by the Export Corporation making a total of 405,000 tons of crude sulphur to be sold by the parties jointly, the percentages being approximately 41.97% for the Ufficio and 58.03% for the Export Corporation.

For second example, assuming the total invoiced sales for one year to be in excess of 480,000 tons but less than 625,000 tons, say 580,000 tons, 50% of the first 480,000 tons gives the Ufficio 240,000 tons plus 25% less 5,000 tons of remaining 100,000 tons, to wit 20,000 tons, a total Ufficio quota of 260,000 tons, and assuming the same figures for manufactured sulphur as in the preceding example, then the amount of crude sulphur to be sold by the Ufficio would be 190,000 tons and the amount of crude sulphur to be sold by the Export Corporation would be 315,000 tons, the percentages being approximately 37.62% for the Ufficio and 62.38% for the Export Corporation.

For third example, assuming the total invoiced sales for one year to be in excess of 625,000 tons, say 725,000 tons, 50% of the first 480,000 tons gives the Ufficio 240,000 tons, 25% minus 5,000 tons of 145,000 tons gives the Ufficio 31,250 tons, and 10% of 100,000 tons gives the Ufficio 10,000 tons, being a total Ufficio quota of 281,250 tons, and assuming the same figures for manufactured sulphur as in the two preceding examples then the amount of crude sulphur to be sold by the Ufficio would be 211,250 tons and the amount of crude sulphur to be sold by the Export Corporation would be 438,750 tons the percentages being approximately 32.50% for the Ufficio and 67.50% for the Export Corporation.

Sulphur for the manufacture of sulphuric acid.—It is the judgment of both parties that the sale of a certain tonnage of sulphur at a special price solely for the manufacture of sulphuric acid is in their mutual interest. Any such sales of sulphur for the manufacture of sulphuric acid shall be made only by mutual agreement of the parties and the terms and conditions thereof shall likewise be mutually agreed. The Export Corporation having made known to the Ufficio the existence of a contract dated February 1st, 1934, between the Export Corporation and the National Sulphuric Acid Association, Ltd., London, covering a sale of 100,000 tons for delivery over two or 2½ years at the said Association's option, the Ufficio undertakes during the life of this agreement to supply a proportion of the sulphur to be delivered against the said contract at the price and under the terms therein stated and other details and conditions as to sampling and analysis to be agreed upon, the said proportion of the Ufficio to be:

(1) If the invoiced sales under said contract do not exceed 35,000 tons in any one year the Ufficio will furnish 50%;

(2) If such invoiced sales exceed 35,000 tons in any one year the Ufficio shall supply its share of such excess over 35,000 tons in the proportion laid down in section (2) of the article of this agreement entitled Division of Tonnage.

The tonnage supplied by both parties under the said contract shall form part of the total annual invoiced sales as figured in the article hereof entitled Division of Tonnage.

Effective date.—The effective date of this agreement is August 1st, 1934. The first year under this agreement shall begin on such date and shall end on July 31st, first year under this agreement shall begin on such date and shall end on July 21st, 1935; all succeeding years shall begin on August 1st and end on July 31st. All shipments and/or deliveries made on and after August 1st, 1934, either from stock in warehouse or otherwise shall be included in the computation of tonnage and quotas.

Prices.—The prices, which at all times are to be such as will foster the sale of high-grade sulphur produced by the parties hereto in competition with pyrites and/or sulphur produced by others and/or substitutes for elementary sulphur, shall, together with terms and conditions of all sulphur sold under this agreement, be fixed from time to time by the parties having regard to changing conditions, in such manner as best to serve their mutual interests.

Allocation.—The allocation or distribution of tonnage sold under this agreement shall be fixed from time to time in such manner as may afford each party the advantages of freight rates and market conditions arising by reason of geographical location with regard to the market served, insofar as this may be done without prejudice to the other party; but each party shall be entitled to its proportionate share of crude sulphur under this agreement of any market upon request to the other, and each party shall be obligated to take its said proportionate share in any low-priced markets upon request of the other.

In order to effectuate this purpose and to facilitate the operations to the mutual and best interests of both parties, they shall each appoint an assistant executive representative, resident in Europe who shall constitute a central bureau for the exchange of data and compilation of statistics and shall assist in the allocation and distribution of tonnage and have such other functions as shall from time to time be assigned them by the parties for the furtherance of the purposes of this agreement. Each party shall promptly furnish to the Central Bureau copies of all contracts and invoices made by it and a note of shipments to warehouses and shipments of manufactured sulphur in the business covered by this agreement. Where in competitive markets the actions of the agents of the respective parties may become detrimental to the best interests of either of the parties hereto

all the business under this agreement shall be transacted through the Central Bureau for such time as may by the parties be decided upon as proper.

Adjustments of tonnage and of sales shall be made for the period ending January 31st, 1935, and for each successive period of six months. If at the termination of any such six-month period it is determined that either party has not sold its full quota as provided herein, or that adjustments in distribution and allocation of tonnage are necessary, such deficiency and necessary adjustments shall be made up within the next succeeding six-month period.

If at any time this agreement shall come to an end the final adjustment shall be made in cash at the average price f. o. b. the respective shipping ports for the period to which the adjustment refers, realized under this contract by the party to whom the cash shall be paid. The party to whom the cash shall be paid will hold the corresponding tonnage of sulphur at the disposal of the other party for six months free of any charge including insurance, and will deliver it f. o. b. the respective shipping ports at the other party's request. This tonnage of sulphur shall not be sold in the territories excluded from the world's crude sulphur market as defined under this agreement.

Statistical.—On or before the thirtieth of each month each party shall furnish to the other, and to the Central Bureau a statement covering the operations of the preceding calendar month which shall show the total tonnage shipped, total tonnages sold and total tonnage delivered, destinations, prices realized, both f. a. s. and/or f. o. b. and/or c. i. f., and/or c. f., freight rates paid and such other information as may be from time to time necessary for proper forecast and allocation.

Penalty for violations.—In case either party shall directly or indirectly export any sulphur or permit the export of any sulphur to the territories covered by this agreement otherwise than as herein provided, for each ton so exported there shall be a reduction in such offending party's allocation provided for herein of two tons, and an increase in the allotment of the other party of two tons.

Manufactured sulphur.—It is the judgment of both parties that the situation of the sulphur-manufacturing industry in the countries covered by this agreement should be maintained as it at present exists throughout the life of this agreement; each party agrees not to do or encourage anything which would result in altering such present situation and any action of a nature to alter such present situation shall be jointly considered and both parties shall use their best endeavors to prevent any such alteration.

Force majeure.—If by reason of force majeure either party is unable to ship its yearly quota or tonnage in such event a revision of allocation to meet the situation as created thereby will be made so as to adjust the matter equitably.

Arbitration.—In case of a disagreement arising out of any matter in connection with the construction of this agreement or performance thereof, which it may be found impossible to settle by amicable arrangement, the same shall be submitted to a Board of Arbitration to sit in London consisting of three members; one chosen by the Export Corporation, one by the Ufficio, and an Umpire to be chosen by the joint agreement of the first two arbitrators.

In case of any party failing to appoint its arbitrator within fifteen days of the notice of the other party so to do, the party who has appointed an arbitrator may appoint that arbitrator to act as sole arbitrator in the reference, and his award shall be binding on both parties as if he had been appointed sole arbitrator by consent.

In case of the first two arbitrators failing to agree within fifteen days of their nomination as to the appointment of the Umpire, such appointment shall be made by the President for the time being of the London Chamber of Commerce upon request of either of the parties.

Insofar as not specially provided for in the present agreement the arbitration shall be subject to the English Arbitration Act of 1889 or any statutory modification thereof at the time subsisting.

Any award shall be final and binding upon both parties.

Legalities.—The Agreement shall not be, nor be construed to be in any respect as a partnership or agreement between the Corporations holding shares of stock in the Export Corporation and the Ufficio nor to bind any of such Corporations in any way individually nor the Italian Government.

It is agreed that this contract shall be deemed to have been executed and delivered at the City of London, England, and the interpretation and enforcement thereof shall be governed by the provisions of the English law as it shall from time to time exist and it is agreed that, subject to the provisions hereof respecting arbitration, jurisdiction shall be given to the English Courts to take cognizance of disputes hereunder and to render judgment or decree which shall be binding upon the parties.

Notice and service of process.—Any notice provided to be given hereunder may be given in writing either by delivering the same in a sealed envelope addressed to the Central Bureau representative of the party to be served at the office of the Bureau, or by Service upon such representative in the manner provided by the laws of England for service of legal papers.

In order to make effective the provisions hereof in respect of arbitration and procedure in the English Courts each party shall at all times maintain in the City of London a person or corporation upon whom legal process may be served on behalf of the other party in the manner provided by the laws of England for the service of legal papers with the same force and effect as if due service had been made upon either party at its home office in the country of its incorporation or institution.

In witness whereof both parties have hereunto set their hands and seals the day and year first above written, the present being one of three triplicate originals so executed.

SULPHUR EXPORT CORPORATION,
By C. A. SNIDER, *President*.

Attest:

B. C. HUGHES.

UFFICIO PER LA VENDITA DELLO ZOLFO ITALIANO,
By C. ANGELLI, *President*.

Attest:

VESPUCCIO CIUCCI.

AUGUST 1ST, 1934.

From: Sulphur Export Corporation, New York.

To: The Ufficio per la Vendita dello Zolfo Italiano, Rome.

GENTLEMEN: Referring to the agreement this day entered into between us, we herewith set forth certain additional and supplementary matters which have been agreed upon between us, as follows:

(1) *Duration*.—In connection with the provision for cancellation in the event of any material increase in the present production of elementary sulphur from pyrites, specifically such present production is:

	<i>Tons per annum</i>
Orkla	70,000
Rio Tinto	30,000
Mason & Barry ...	10,000
	<hr/> 110,000

(2) *Sulphur for the manufacture of sulphuric acid*.—For the purpose of facilitating the agreed division of tonnage to be supplied to the National Sulphuric Acid Association, Ltd., under the contract cited in the article headed "Sulphur for the Manufacture of Sulphuric Acid," the Central Bureau will from time to time receive from the National Sulphuric Association, Ltd., requests for shipments and will then allocate such tonnage to the parties in such manner as is most convenient to the parties and to the National Sulphuric Acid Association, Ltd.

Such allocations to the Ufficio will be evidenced by purchase requisitions signed by B. C. Hughes on behalf of the Sulphur Export Corporation as per sample form attached.

(3) In connection with the article entitled "Prices," the following schedule will be effective until changed by mutual agreement of the parties:

Except in special cases which may be presented and agreed upon all sales to be made c. i. f. The prices shall be in United States dollar currency or equivalent, cash payment—

C. i. f. ports in Europe, except ports in Lithuania, Poland, the port of Danzig, ports in Portugal, France, Spain, Belgium, Jugoslavia, Albania, Roumania, Greece, Turkey in Europe, Bulgaria, and U. S. S. R. \$23.00

C. i. f. ports in France and Belgium	23.50
C. i. f. ports in Lithuania, Poland, the port of Danzig, ports in Portugal, Spain, Jugo-Slavia, Albania, Roumania, Greece, Turkey in Europe, Bulgaria, and U.S.S.R.....	24.00
C. i. f. ports in Asia.....	24.00
C. i. f. ports in Australasia.....	23.50
C. i. f. ports in South America.....	23.00
C. i. f. ports in Africa excluding Algeria	24.00
C. i. f. ports in Algeria.....	23.50
C. i. f. any other ports not covered above	23.50

Such prices are understood to be minimum net per ton of 2,240 lbs., delivered weight, and refer to the highest Italian grade (Gialla Superiore—Best Yellow) and to the American quality of crude sulphur.

All sales of lower grades of Italian sulphur are to be made according to the above schedule, conditions and terms, except that a discount or differential may be allowed from the schedule in no case exceeding:

\$0.85 per ton for Gialla Inferior (Inferior Yellow); \$1.55 per ton for Buona (Good) quality; \$2.25 per ton for Corrente (Current) quality.

(4) In connection with the article entitled "Allocation," the Central Bureau shall be located in London, England, and all expenses thereof except such salary or remuneration as may be paid to the representative thereon of the Ufficio shall be borne by the Sulphur Export Corporation.

To assist in the proper allocation of tonnage each party will promptly file with the Central Bureau a schedule of unfilled orders and copies of all uncompleted contracts as of August 1st, 1934 and copies of all engagements to supply sulphur on or after August 1st, 1934.

In connection with the article entitled "Notice and Service of Process" the Sulphur Export Corporation has conferred upon Mr. Bertie Cameron Hughes of London House, 35 Crutched Friars, London, E. C. 3., authority to accept service of legal process for it and hereby designates him as the party upon whom legal process under the agreement may be served to bind it; and the Ufficio hereby gives authority to Henry Gardner & Co. Ltd., of 2 Metal Exchange Buildings, London, E. C. 3., to accept legal service for it in England and hereby designates said Corporation as the party upon whom legal process under the agreement may be served to bind it.

We will thank you to confirm and accept the above.

Yours truly,

SULPHUR EXPORT CORPORATION,

By (Signed) C. A. SNIDER, *President*.

Confirmed and accepted:

UFFICIO PER LA VENDITA DELLO ZOLFO ITALIANO,

By (Signed) C. ANGELLI, *President*.

APPENDIX VIII C

SULPHUR AGREEMENT OF 1936

MEMORANDUM OF AGREEMENT MADE IN LONDON THIS FIRST DAY OF APRIL 1936 BETWEEN ORKLA GRUBE A. B. OF LOKKENVERK, NORWAY, AND THE SULPHUR EXPORT CORPORATION OF NEW YORK, U. S. A.

This Agreement is to take effect as of January 1st, 1937, and shall remain in force until December 31st, 1941, unless sooner terminated as hereinafter provided.

This Agreement is confined to the Continents of Europe, Asia, and Africa including adjacent islands, hereinafter called the joint territory.

It is agreed that sales in the joint territory made by the Sulphur Export Corporation and the Orkla Company shall be divided one-third to the Orkla Company and two-thirds to the Sulphur Export Corporation.

Commencing January 1st, 1937, sales will be proportioned in this ratio as nearly as may be and should either of the parties be behind in its tonnage that tonnage will be made up during the next year.

Information will be currently furnished by both parties to the other advising all sales which each party has made in the joint territory. The price at which these sales shall be made shall be mutually agreed upon at a meeting which shall take place in London not less than three months before expiration of each calendar year. If at this meeting no agreement is reached between the two parties as to prices for the coming year then either party may elect to cancel this Agreement to take effect on the following December 31st. The party desiring cancellation shall give notice to the other in writing to be mailed prior to November 1st.

It is contemplated that as soon as Orkla increases its production of brimstone above 70,000 tons per year and thereby releases to the pyrites industry any tonnage of pyrites which Orkla is now selling an endeavour will be made as soon as feasible through collaboration with the pyrites industry as soon as such tonnage is released to secure an equivalent brimstone tonnage in the joint territory. In no case without agreement between the parties shall the price of brimstone be less than 75/-c. i. f. and in no case shall an attempt be made to secure customers who would be in direct competition with present users of brimstone without the mutual consent of both parties.

Orkla agrees as far as lies in its power that it will not license to others the use of the Orkla process covered by patents which are now controlled by the Aktiebolaget Industrimetoder, Stockholm, nor to assist others in the development and use of the process other than as already committed.

It is recognized in principle by both parties that it may be desirable to secure through purchase or otherwise certain patents in the joint territory which may have a potential value in the production of sulphur in

the joint territory. If any such patents are acquired they shall be acquired jointly by the two parties, payment being two-thirds by the Sulphur Export Corporation and one-third by Orkla. The title to such patents shall be held in trust by A. B. Industrimetoder, a subsidiary of Orkla which Company will endeavour to protect these patents for the mutual benefit of both parties and at their mutual expense in the proportions mentioned. No license for such jointly owned patents shall be issued by A. B. Industrimetoder without the consent of both parties.

It is understood that as far as practicable sales of Orkla Sulphur shall be confined to Scandinavia and the countries bordering on the Baltic.

In case other American producers outside the Sulphur Export Corporation shall ship sulphur into the joint territory it shall be the option of the Orkla Company in case it does not wish to absorb its one-third portion of such loss of tonnage to cancel this Agreement giving to the Sulphur Export Corporation 90 days' notice of its wish to cancel.

The Orkla Company has been advised of the existence of an agreement between the Ufficio per la Vendita dello Zolfo Italiano and the Sulphur Export Corporation. This present Agreement is subject to the concurrence of the Ufficio.

In case of a disagreement arising out of any matter in connection with the construction of this Agreement or performance thereof, which it may be found impossible to settle by amicable arrangement, the same shall be submitted to a Board of Arbitration to sit in London consisting of three members; one chosen by the Sulphur Export Corporation, one by the Orkla Company, and an Umpire to be chosen by the joint agreement of the first two arbitrators. In case of any party failing to appoint its arbitrator within fifteen days of the notice of the other party so to do, the party who has appointed an arbitrator may appoint that arbitrator to act as sole arbitrator in the reference, and his award shall be binding on both parties as if he had been appointed sole arbitrator by consent. In case of the first two arbitrators failing to agree within fifteen days of their nomination as to the appointment of the Umpire, such appointment shall be made by the President for the time being of the London Chamber of Commerce upon request of either of the parties.

In so far as not specially provided for in the present Agreement the arbitration shall be subject to the English Arbitration Act of 1889 or any statutory modification thereof at the time subsisting.

Any award shall be final and binding upon both parties.

SULPHUR EXPORT CORPORATION,
(Signed) By WILBER JUDSON, *Vice President*.

Attest:

B. C. HUGHES. (signed)

ORKLA GRUBE A. B.,
(Signed) By MARC WALLENBERG.

Attest:

N. E. LENANDER. (signed)

LONDON, April 1st, 1936.

MESSRS. ORKLA GRUBE A. B.,

Lokkenverk, Norway.

GENTLEMEN: With reference to the Agreement made between us today, it has been further agreed as follows:

(1) The Sulphur Export Corporation will supply those customers substituting brimstone for pyrites as set forth in the Agreement, with, however, the right on the part of the Sulphur Export Corporation to have Orkla supply one-third of such total tonnage should the Sulphur Export Corporation so desire.

(2) In the event of the dissolution of the Sulphur Export Corporation the Agreement is to terminate and become null and void as from the date of such dissolution.

"* * * in no case shall an attempt be made to secure customers who would be in direct competition with the present users of brimstone without the mutual consent of both parties."
It is desired to place on record that this arises from a desire to avoid the difficulties which might come about through two Works in the same line of business and/or in close proximity obtaining supplies of brimstone at widely differing prices. It is considered to be in our best interests to avoid difficulties of this nature and the object of the clause in question is to ensure that there shall be full discussion and mutual agreement before any action is taken which might be detrimental to the interests of us both.

Your signature on the duplicate hereof will constitute your acceptance of the foregoing.

Yours truly,

SULPHUR EXPORT CORPORATION,

(Signed) By WILBER JUDSON, *Vice President.*

Confirmed and accepted:

ORKLA GRUBE A. B.,

(Signed) By N. E. LENANDER.

Source: TNEC, *Hearings*, Part 5, pp. 2240 f.

APPENDIX · VIII D

WORLD COPPER AGREEMENT OF 1935

MARCH 28, 1935.

MEMORANDUM OF PROVISIONS COVERING CURTAILMENT AND PRODUCTION CONTROL OF AFRICAN, SOUTH AMERICAN, AND EUROPEAN PRODUCERS

Recital.—The purpose of the above mentioned producers in participating in this memorandum is to bring about better conditions in the production, distribution and marketing of copper throughout the world outside of the United States, and it is specifically provided that none of the terms hereof shall apply to the United States. Accordingly:

Article 1.—Mine production shall be curtailed from agreed basic tonnage as set out in Schedule "A" hereto attached and made a part hereof to the extent of 20% effective not later than May 1, 1935. For example, a cooperating producer whose basic production is 10,000 tons shall not produce more than 8,000 tons in the month of May 1935. The foregoing is subject to the exceptions stated in Schedule "A."

Article 2.—Mine production shall be curtailed from agreed basic tonnage to extent of 30%, effective not later than June 1, 1935, and shall continue at that rate until changed by the Control Committee hereinafter provided for. For example, a cooperating producer whose basic production is 10,000 tons shall not produce more than 7,000 tons in the month of June 1935 and following months subject to modification as herein provided. The foregoing is subject to the exceptions stated in Schedule "A."

Article 3.—If curtailment in excess of 30% of the basic production tonnage is decided upon by the Control Committee herein provided for, such further curtailment shall not become effective in any event prior to October 1, 1935, unless an earlier date is satisfactory to all participants. Any curtailment in excess of 30% shall be conditioned upon participants having contracts for which they have insufficient copper being able to make equitable arrangements to supply their commitments. Curtailment in excess of 40% shall be voluntary. Increases in production above basic tonnages shall be a matter to be considered by all participants.

The curtailment and production control shall take into account the consumptive demand.

Article 4.—In the event that any participant has a partial or complete cessation of production during the period of this agreement, said participant shall have the right to make up any production so lost.

Article 5.—A Control Committee shall be set up and the voting thereof shall be conducted in accordance with Schedule "C" hereto attached. The functions of this Committee shall be:

- (a) To arrange for the gathering and distribution of statistics;
- (b) To arrange for increases or decreases in production, in accordance with Article 2 and 3 and Schedule "A";
- (c) To receive, consider and decide questions relating to interpretations of this memorandum;
- (d) To consider and advise upon any matters arising under this memorandum submitted to it by any of the participants;
- (e) To hear complaints relative to alleged breaches of this memorandum. If the Committee, after a hearing and after full consideration, is of the opinion that any participant has committed a breach it shall give notice to the offending participant to remedy the breach within a reasonable time fixed by the Committee. The participants agree to abide by the decision of the Committee. No representative of a participant against whom a complaint of breach of this memorandum is made shall sit upon the Committee which decides whether such breach has been made.

Article 6.—A Committee consisting of five members (to be made up in accordance with Schedule "D" hereto attached) shall be appointed to supervise and enforce the trade practices herein agreed upon and set forth in Schedule "B" in the markets to which this memorandum applies. Such Committee shall undertake a study of the entire problem of the cooperative marketing of copper in such markets and shall make a final report of its recommendations to the participants as soon as practicable, for acceptance by all participants. The basic quotas of production herein respectively agreed upon by the participants, and the rate of production fixed from time to time in the manner herein provided shall continue until July 1, 1938, provided there has been a unanimous acceptance of the report specified herein not later than April 1, 1936. This memorandum, however, may on unanimous consent be extended for a further period beyond July 1, 1938, and for the purpose of considering such extension a meeting of the participants shall be called not later than six months prior to the expiration date.

The trade practices and the marketing report of said Committee on its acceptance, except as may be modified by the unanimous consent of the parties affected, shall run as to term contemporaneously with the said production curtailment and control as herein provided.

Article 7.—If in the opinion of any participant a case of force majeure has arisen which renders this memorandum in its present form inequitable or unworkable such participant shall report the fact to the Control Committee which shall promptly investigate and make recommendations. If, after discussion, such recommendations are not accepted by all the participants the Committee shall declare the arrangement at an end.

SCHEDULE "A"

PRODUCTION SCHEDULE FOR MEMBERS OF THE COOPERATING GROUP, FIRST PERIOD ENDING
DECEMBER 31, 1936

(Production in Short Tons Per Month)

Curtailment	Chile- Andes- Greene Group	Ka- tanga	Braden	Rho- kana	Roan	Mufu- lira	Rio Tinto
(a) Basic tonnage.	18,500	11,000	10,976	6,720	6,720	3,730	3,172
(b) 5%.....	17,575	10,450	10,427	6,384	6,384	3,543	3,013
(c) 10%.....	16,650	9,900	9,878	6,048	6,048	3,356	2,855
(d) 15%.....	15,725	9,350	9,330	5,712	5,712	3,170	2,606
(e) 20%.....	14,800	8,800	8,781	5,376	5,376	2,984	2,538
(f) 25%.....	13,875	8,250	8,232	5,040	5,040	2,797	2,379
(g) 30%.....	12,950	7,700	7,683	4,704	4,704	2,611	2,220
(h) 35%.....	12,025	7,150	7,134	4,368	4,368	2,424	2,062
(i) 40%.....	11,100	6,600	6,586	4,032	4,032	2,238	1,903

MEMORANDUM

Conditioned upon the acceptance by the cooperating group of the respective positions defined in this Schedule "A," the Bor Company, through Mr. Bellanger, stated that its maximum production would be as follows:

For the calendar years 1935..... 39,000 metric tons;

For the calendar years 1936 and 1937 respectively.... 38,000 metric tons.

In the event of a curtailment of 40% by the cooperating producers, Bor will curtail to 37,000 metric tons as a maximum production for the calendar years 1936 and 1937.

Mr. Bellanger presented the following schedule of production for the Bor Company:

When cooperating members curtail	Bor's Production will not exceed (short tons per month)	
	1935	1936 and thereafter
(a) Basic tonnage.....	4,400	4,400
(b) 5%.....	4,263	4,248
(c) 10%.....	4,125	4,097
(d) 15%.....	3,988	3,945
(e) 20%.....	3,850	3,794
(f) 25%.....	3,713	3,641
(g) 30%.....	3,575	3,489

NOTE.—The Bor position, as herein set out, is not accepted as final by the other participants. Its proposal is included herein tentatively with the understanding that representations will be made by the other participants through Mr. Bellanger, in the effort to induce the Board of Directors of the Bor Company to fix a production position more nearly in accord with that of the other participants.

Appendices

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SUPPLEMENTAL SCHEDULE "A"

NET RELATIVE PRODUCTIONS—SECOND PERIOD, JANUARY 1, 1937 TO SEPTEMBER 30, 1937
(Production in Short Tons Per Month)

Curtailment	Chile- Andes- Greene Group	Katan- ga	Braden	Rho- kana	Roan	Muful- ira	Rio Tinto
(a) Basic Tonnage less Mufulira Allowance..	18,500	10,809	10,785	6,529	6,507	4,640	3,110
(b) 5%.....	17,575	10,269	10,246	6,203	6,181	4,407	2,954
(c) 10%.....	16,650	9,728	9,706	5,876	5,856	4,176	2,799
(d) 15%.....	15,725	9,188	9,168	5,550	5,531	3,943	2,643
(e) 20%.....	14,800	8,647	8,628	5,223	5,205	3,712	2,489
(f) 25%.....	13,875	8,107	8,089	4,897	4,880	3,478	2,333
(g) 30%.....	12,950	7,566	7,549	4,570	4,555	3,248	2,177
(h) 35%.....	12,025	7,026	7,010	4,244	4,229	3,015	2,022
(i) 40%.....	11,100	6,485	6,471	3,917	3,904	2,785	1,866

TABLE SHOWING COMPUTATION OF TONNAGES CONTRIBUTED BY PRODUCERS TO OFFSET
MUFULIRA TONNAGE INCREASE IN SECOND PERIOD, JANUARY 1, 1937 TO SEPT. 30, 1937
(Short Tons Per Month)

Curtail- ment	Katan- ga	Braden	Rho- kana	Roan	Muful- ira	Bor	Rio Tinto	Total
	17%	17%	17%	19%	19%	5.5%	5.5%	100%
5%...	181	181	181	203	203	59	59	1,067
10%...	172	172	172	192	192	56	56	1,012
15%...	162	162	162	181	181	53	53	954
20%...	153	153	153	171	171	49	49	899
25%...	143	143	143	160	160	46	46	841
30%...	134	134	134	149	149	43	43	786
35%...	124	124	124	139	139	40	40	730
40%...	115	115	115	128	128	37	37	675

NOTE.—These figures are computed on a basic tonnage for Mufulira of 3,730 short tons per month until December 31, 1936; 4,853 short tons per month for the second period from January 1, 1937 to September 30, 1937, and 5,972 short tons per month for the third period from October 1, 1937, to June 30, 1938.

SUPPLEMENTAL SCHEDULE "A"

NET RELATIVE PRODUCTIONS—THIRD PERIOD, OCTOBER 1, 1937 TO JUNE 30, 1938
(Production in Short Tons Per Month)

Curtailment	Chile- Andes- Greene Group	Katan- ga	Braden	Rho- kana	Roan	Muful- ira	Rio Tinto
(a) Basic Tonnage less Mufulira Allowance..	18,500	10,618	10,594	6,338	6,295	5,547	3,049
(b) 5%.....	17,575	10,088	10,065	6,022	5,979	5,268	2,896
(c) 10%.....	16,650	9,557	9,535	5,705	5,665	4,990	2,744
(d) 15%.....	15,725	9,026	9,006	5,388	5,350	4,714	2,591
(e) 20%.....	14,800	8,495	8,476	5,071	5,035	4,438	2,439
(f) 25%.....	13,875	7,964	7,946	4,754	4,721	4,158	2,287
(g) 30%.....	12,950	7,433	7,416	4,437	4,406	3,882	2,134
(h) 35%.....	12,025	6,902	6,886	4,120	4,091	3,605	1,982
(i) 40%.....	11,100	6,371	6,357	3,803	3,777	3,328	1,829

TABLE SHOWING COMPUTATION OF TONNAGES CONTRIBUTED BY PRODUCERS TO OFFSET
MUFULIRA TONNAGE INCREASE IN THIRD PERIOD, OCTOBER 1, 1937 TO JUNE 30, 1938
(Short Tons Per Month)

Curtail- ment	Katan- ga	Braden	Rho- kana	Roan	Muful- ira	Bor	Rio Tinto	Total
	17%	17%	17%	19%	19%	5.5%	5.5%	100%
5%...	362	362	362	405	405	117	117	2,130
10%...	343	343	343	383	383	111	111	2,017
15%...	324	324	324	362	362	105	105	1,906
20%...	305	305	305	341	341	99	99	1,795
25%...	286	286	286	319	319	92	92	1,680
30%...	267	267	267	298	298	86	86	1,569
35%...	248	248	248	277	277	80	80	1,458
40%...	229	229	229	255	255	74	74	1,345

NOTE—These figures are computed on a basic tonnage for Mufulira of 3,730 short tons per month until December 31, 1936; 4,853 short tons per month for the second period from January 1, 1937, to September 30, 1937, and 5,972 short tons per month for the third period from October 1, 1937, to June 30, 1938.

SCHEDULE "B."—Committee Functions and Trade Practices

1. Copper To Be Included:

- (a) Ore, concentrates, matte or other crude material produced for sale or sold as such, excluding scrap;
- (b) Blister and Rough;
- (c) Fire Refined;
- (d) Electrolytic or other copper of whatever grade (cathodes and shapes);
- (e) Rods.

2. Statistical clearing houses for the gathering and dissemination of all pertinent statistical data shall be located at points approved by the Committee.

The Clearing Houses shall make:

- A. (1) A complete survey of all marketable stocks as at the date hereof and monthly thereafter;
- (2) A complete survey of the sales position, for which purpose members shall report to the Clearing House as soon as practicable after the date hereof and monthly thereafter all contracts made and deliveries thereunder, setting out in each case the grade of copper, duration of contract (up to end of 1936 only), price and whether sold to ultimate consumer or not.
- B. Members shall report sales daily to the Clearing Houses showing prices, differentials, tonnages, ports and countries of destination, and month of delivery. Sales in home markets not accessible to other members shall only be reported as to tonnage.

- C. Clearing Houses shall issue to the membership a summary of surveys (1) and (2) as soon as completed and every month thereafter, and in the case of daily sales they shall issue a summary to the membership each business day.
3. In addition to the above-mentioned functions of the Committee, close daily contact should be maintained between the various selling organizations with a view to eliminating destructive price cutting and bringing about stable market conditions.
 4. Uniformity of sales contracts to be established by the Committee so far as possible under existing circumstances.
Sales shall be made as far as possible to consumers only or, if to merchants for account of consumers, with the intent to prevent speculation by dealers, except that sales of copper in unfinished form and requiring further processing may be made to Custom Smelters or refineries regularly engaged in such business.
Merchants to whom sales as above are made should be asked to report sales to ultimate consumers the same as members of the cooperating group.
Sales may be made through agents on customary commission basis and on the European Metal Exchanges for hedging only.
 5. Electrolytic brands at seller's option wherever acceptable.
 6. Sales to be on C. I. F. basis for usual ports of destination with differentials for other delivery points; or F. A. S. seaboard ports of shipment.
 7. It is agreed that the members, insofar as possible, will endeavor to make available to customers copper of the grades which they have been customarily receiving.
 8. Liberal exchange arrangements should be made between sellers.

SCHEDULE "C"

The Control Committee to be established under Article 5 shall consist of one representative from each of the following participants:

Union Minière du Haut Katanga;
Rhokana Corporation, Ltd;
Roan Antelope Copper Mines, Ltd;
Group consisting of Chile Exploration Co., Andes Copper Mining Co., Greene Cananea Copper Co.
Braden Copper Company.

In cases of difference of opinion amongst members of the Committee respecting points (a) (b) (c) (d) or (e) of Article 5, decision in the matter shall be by the concurring vote of not less than 4 of the 5 members of the Committee. Should one or more members of the Committee be disqualified as provided under Article 5 (e) the other members of the Committee shall appoint from the representatives of the cooperating group who

are not involved in the controversy, an additional member or members to take their place.

It is understood that one representative each from the Compagnie Francaise des Mines de Bor and the Rio Tinto Company, Ltd., shall have the right to attend (without vote) all meetings of the Committee and to receive copies of all minutes of such meetings and of decisions made by the Committee, as well as any other information concerning matters related to Schedule "A" which may be discussed from time to time by the Committee.

SCHEDULE "D"

Under Article 6 is provided that a Committee consisting of five members shall be appointed to supervise and enforce the trade practices as set forth in Schedule "B."

It is agreed that this Committee of five shall consist of a representative from each of the following participants:

- Rhokana Corporation, Ltd.;
- Union Minière du Haut Katanga;
- Group consisting of Roan Antelope Copper Mines, Ltd.; Mufulira Copper Mines, Ltd.
- Group consisting of Chile Exploration Co., Andes Copper Mining Co., Greene Cananea Copper Co.
- Braden Copper Company.

The representatives who shall initially serve on this Committee shall be: Mr. S. S. Taylor (Chairman); Mr. Fernand Pisart; Mr. B. N. Zimmer; Mr. E. Mosehauer; Mr. C. T. Ulrich; with the further understanding that one representative each from the Compagnie Francaise des Mines de Bor, the Rio Tinto Company, Ltd., and Roan Antelope Copper Mines, Ltd., shall have the right to attend (without vote) all meetings of the Committee and to receive copies of all minutes of such meetings and of decisions made by the Committee as well as any other information concerning matters related to Schedule "B" which may be discussed from time to time by the Committee.

Source: TNEC, *Hearings*, Part 25, pp. 13528 ff.

APPENDIX VIII E

AMERICAN-GERMAN AGREEMENT OF 1938 CONCERNING ELECTRO APPLIANCES

AGREEMENTS BETWEEN INTERNATIONAL GENERAL ELECTRIC COMPANY, INCORPORATED, AND ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT

(Including Principal and Supplemental Agreements dated October 7, 1938)

THIS AGREEMENT, made this seventh day of October 1938, between International General Electric Company, Incorporated, a corporation of the State of New York, United States of America, having its principal office in the City and State of New York, acting for itself and the General Electric Company of Schenectady, New York, and their respective wholly owned subsidiaries (hereinafter called "General Company") and Allgemeine Elektricitaets Gessellschaft, a company of the German Reich, having its principal office in Berlin, Germany, acting for itself and its wholly owned subsidiaries (hereinafter called "AEG").

RECITALS

1. Whereas the General Company has acquired all patent manufacturing and selling rights, information and good will of the said General Electric Company (including its wholly owned subsidiaries), a corporation of the State of New York, United States of America, outside of the United States of America, its possessions, colonies, territories and dependencies, Canada and Newfoundland; and

2. Whereas the General Company and the AEG entered into an agreement, dated January 2, 1922, for the exchange of certain rights, which agreement, with its supplements and modifications, is still in full force and effect; and

3. Whereas the General Company and the AEG desire by this present agreement to incorporate into a single instrument and keep in force the said agreement of January 2, 1922, with its supplements and modifications, as herein further supplemented and modified.

AGREEMENT

Now, in consideration of the premises and the mutual agreements herein contained, it is agreed that the above-mentioned agreement of January 2, 1922, together with all supplements thereto and modifications thereof, is hereby modified as of the date hereof to read in full as follows

(excepting that the agreements listed in Exhibit "A" hereof are to continue in full force and effect pursuant to their own terms):

ARTICLE I. SCOPE OF AGREEMENT

(A) The scope of this Agreement shall, subject to Paragraph (C) of this Article comprise all apparatus which concern, either directly or indirectly, the generation, transmission, distribution, conversion and utilization of electric energy, including turbines and other prime movers. The term "apparatus," wherever used in these presents, is to comprise apparatus machines, appliances, devices, articles, systems and methods of every description.

(B) "Turbines" shall mean "Elastic fluid turbines" for all fields of use including inventions relating to or applicable to such turbines, inventions or methods of appliances for manufacturing such turbines, and inventions relating to condensers and other accessories insofar as such are used with such turbines.

(C) The following are excluded from the scope of this Agreement:

(1) Radio apparatus, i. e., apparatus for transmitting and/or receiving electromagnetic waves without connecting wires between receiver and transmitter, but the application of such radio apparatus for power purposes shall not be excluded from the scope of this Agreement.

(2) Devices, appliances, systems, connections and methods for the generation, control and application of X-rays, which are to be made the subject of a separate agreement between the Parties hereto: Provided however that failure to conclude such an agreement shall in no respect modify or affect these presents.

(3) Porcelain insulators.

(4) Diesel Engines.

(5) Cables for communication purposes, together with associated amplifying apparatus.

(6) Railway signalling and switching apparatus.

(7) All Electric Lamps for illuminating, heating or medical purposes operating by any or all of the following methods: incandescence of a refractor filament or by luminescence of gas or by cathode incandescence (except so-called arc or enclosed arc lamps not operating in a sealed container); all parts thereof and all machines and processes for their manufacture. This definition of lamps shall be automatically modified to correspond with the definition in force from time to time in existing agreements between the General Company and Osram G.m.b.H., which agreements are known to the parties.

(D) It is understood and agreed that domestic electric vacuum cleaners are included within the scope of this agreement pursuant to the terms and conditions of a certain letter-agreement dated January 20, 1930, between the parties hereto, as accepted and agreed to by the Electric Vacuum Cleaner Company, Inc.

(E) If certain patents are applicable to apparatus coming within the scope of this Agreement and to other apparatus not coming within the scope of this Agreement, assignments and grants of licenses shall extend only to use of patents in respect of apparatus coming within the scope of this Agreement.

ARTICLE II. TERRITORY

(A) The exclusive territory of the AEG hereunder shall be Czechoslovakia, Danzig, Denmark, Esthonia, Finland, Germany (including former Austria), Hungary, Latvia, Lithuania, Memel, Norway, Poland, and Sweden, including the respective colonies of these countries, and the above countries shall in this Agreement be collectively designated as the AEG's exclusive territory; provided, however, that the General Company reserves for itself and/or for its nominees (which nominees shall not be other than the General Company's licensees in Great Britain) a nonexclusive right under the patents owned or controlled by it to sell in and/or for export to the countries of Czechoslovakia, Denmark, Esthonia, Finland, Hungary, Latvia, Lithuania, Norway, Poland, and Sweden.

(B) The exclusive territory of the General Company hereunder shall be Canada, Newfoundland, United States of America, its territories, dependencies, and possessions including Alaska, Hawaii, Philippine Islands, Porto Rico, Panama Canal Zone, Guam, Tutuila Group, and Virgin Islands; and all the above countries shall in this agreement be collectively designated as the General Company's exclusive territory.

(C) The following territories are excluded from the scope and operation of this Agreement and no rights are granted by or to either party hereto in respect of such territory:

(1) Great Britain and Northern Ireland, Irish Free State, Isle of Man, Malta, Gibraltar, and Cyprus.

(2) Russia, Belgium, Luxembourg, France, Greece, Portugal, Spain, and their respective colonies, protectorates, and mandates.

(3) Japan and its colonies, protectorates, and mandates.

(D) In view of the necessarily close relationship herein established between the parties hereto, and of the disclosure by each party to the other of much private and confidential manufacturing, engineering, technical and other information, advice, assistance, plans, drawings and other data, each party hereto covenants that it will not, during the period of this Agreement, without the written consent of the other party hereto, engage directly or indirectly in the manufacture or sale in or for use in the exclusive territory of the other party of apparatus within the scope of this Agreement; and each party hereto shall cause the observance of this provision by its controlled companies, agents, and representatives as further provided for in Paragraph H of Article VII and in paragraph (C) of Article X and in Article XII hereof.

(E) The exclusive rights of the parties hereto in Italy and its Colonies in various fields within the scope of this Agreement have been granted to Compagnia Generale di Elettricità by a separate agreement between each party hereto and that Company, and the parties hereto agree to cooperate with each other and with the Compagnia Generale di Elettricità in operating under said agreements or any renewals or extensions thereof.

(F) Should the AEG desire to enter into agreements within the scope of this Agreement with the exclusive licensees of the General Company in any countries of the excluded territory specified in paragraph (C) of this Article II, the General Company hereby undertakes to give its consent to the conclusion of such agreements provided that such agreements do not in any way abridge or diminish the rights of the General Company under these presents.

(G) The rest of the world not included in Paragraphs (A), (B), (C), and (E) of this Article II shall be termed "nonexclusive territory" and in such nonexclusive territory, in addition to such manufacturing and sub-licensing rights of the parties hereto as are provided for in Articles IV, V, VI, and VII hereof, the General Company and the AEG shall respectively have equal nonexclusive selling rights; and each party undertakes not to dispose of its patent or selling rights in the nonexclusive territory during the period of this Agreement in such a way as will invalidate the selling rights of the other party therein.

(H) All countries referred to herein shall mean those countries as they exist from time to time during the period of this Agreement. The colonies of any countries mentioned in this Agreement shall be included with the country only if express language so provides.

ARTICLE III. INVENTIONS AND PATENTS

(A) Each party agrees during the period of this Agreement that it will, as far as is reasonably practicable, cause its engineers and other like employees to disclose to it inventions within the scope of this Agreement made by them, and to assign such inventions to it, it being understood that each party shall use its best endeavors to carry out this provision, but that if due care and diligence are exercised neither party shall be liable to damages for failure to carry it out.

(B) The provisions hereof for payment by any party of expense of patents shall include no compensation made to employees of the respective parties for their inventions, unless expressly arranged otherwise.

(C) Should either of the parties hereto acquire a patent or right under patents for use in its own territory from any person not in its employ or from any outside Company, it shall use its best endeavors in the negotiations for the acquisition of such patent or rights to secure similar rights for the territory of the other party.

(D) Nothing in this Agreement shall require either party to turn over to the other without proper reimbursement, any patents or rights under

patents which may be acquired by bona fide purchase from any third party. In case either party shall hereafter acquire by such bona fide purchase an invention, patent, or patent right within the scope of this Agreement for one or more countries for which the other has rights, the said invention, patent, or patent right may, at the option of the other party, be brought under the operation of this Agreement, provided that the said other party pays to the party acquiring the invention, patent, or patent right the actual cost paid bona fide for the rights transferred to it, or in case this cost has not been fixed separately for each country, its pro rata share of the cost of the same based upon the relative business of the character within the scope of this Agreement done by such other party and its controlled and associated Companies in the next preceding calendar year in the countries covered by such patents, as compared to the total of such business of all the parties hereto and their respective controlled and associated Companies in such countries in such year. When the acquisition involves the payment of a royalty based on the use of the invention, each party assumes the royalty payable with respect to its use thereof.

(E) Each party agrees that during the period of this Agreement it will promptly communicate to the other information concerning its patents and patent applications which it now or hereafter may own or control within the scope of this Agreement, and the inventions therein referred to.

(F) Each party shall, in dealing with inventions and rights which it acquires from the other, observe such reasonable precautions as may be requested by the other party to protect the rights of such other party with respect to inventions on which it is intended that patents shall be taken, but with respect to which patents have not been granted.

(G) Each party will give to the other advice and information in connection with patent matters, including filing and prosecuting patent applications and prosecuting and defending suits for infringement.

ARTICLE IV. PATENT GRANTS TO THE AEG

(A) Subject to the provisions herein, the General Company grants to the AEG for the period and scope of this Agreement:

(A-1) An exclusive license under all its present and future patents for the AEG's exclusive territory subject to the reservation specified in Paragraph (A) of Article II hereof, to make, use, and sell in such territory, but not for export to and/or for use in other countries except the nonexclusive territory; provided, however, that:

(A-1-a) Under the license granted in Paragraph (A-1) of this Article IV the AEG is authorized to sell to the General Company, to Compagnia Generale di Elettricità and to the affiliated companies of the General Company in the excluded territory.

(A-2) An exclusive license (subject to the reservation by the General Company of a nonexclusive license to manufacture) under all its present and future patents to make in the nonexclusive territory in the

continent of Europe, but not for export to and/or for use in other countries, except in AEG's exclusive territory, and in the nonexclusive territory; provided, however, that:

(A-2-a) Under the license granted in Paragraph (A-2) of this Article IV the AEG is authorized to sell to the companies mentioned in Paragraph (A-1-a) of this Article IV.

(A-3) A nonexclusive license under all its present and future patents for the Republic of China to make and sell in China, but not for export to and/or for use in other countries except in the AEG's exclusive territory and in the nonexclusive territory; provided, however, that:

(A-3-a) Under the license granted in Paragraph (A-3) of this Article IV the AEG is authorized to sell to the companies mentioned in Paragraph (A-1-a) of this Article IV.

(A-4) A nonexclusive license under all its present and future patents to export to and/or sell for use in the nonexclusive territory, as defined in Paragraph (G) of Article II.

ARTICLE V. PATENT GRANTS TO GENERAL COMPANY

(A) Subject to provisions herein, the AEG hereby grants to the General Company for the period and scope of this Agreement:

(A-1) An exclusive license under all its present and future patents for the General Company's exclusive territory as defined in Paragraph (B) of Article II to make and sell for use in such territory, but not for export to and/or for use in other countries, except in the non-exclusive territory; provided, however, that:

(A-1-a) Under the license granted in Paragraph (A-1) of this Article V the General Company is authorized to sell to the companies mentioned in Paragraph (A-1-a) of Article IV hereof.

(A-2) A nonexclusive license under all its present and future patents to export to and/or sell for use in the nonexclusive territory as defined in Paragraph (G) of Article II.

(A-3) A nonexclusive license under all its present and future patents for the Republic of China to make and sell in China, but not for export to and/or for use in other countries except in the General Company's exclusive territory and in the nonexclusive territory; provided, however, that:

(A-3-a) Under the license granted in Paragraph (A-3) of this Article V the General Company is authorized to sell to the companies mentioned in Paragraph (A-1-a) of Article IV hereof.

(A-4) An exclusive license (subject to the reservation by the AEG of a nonexclusive license to manufacture under all its present and future patents) to manufacture in those countries of the nonexclusive territory in the western hemisphere between the meridians of 30 de-

grees and 165 degrees west of the meridian of Greenwich, but not for export to and for use in other countries except in the General Company's exclusive territory and in the nonexclusive territory, provided, however, that the General Company is authorized to sell to the companies mentioned in Paragraph (A-1-a) of Article IV.

ARTICLE VI. SUBLICENSING RIGHTS

(A) Each party hereto shall have the exclusive right (subject to the reservation contained in Paragraph (A) of Article II hereof) to grant in its exclusive territory licenses under the patents of both parties hereto to manufacture and/or sell in such territory, but such licenses shall not include the right under the patents of the other party to export except with the consent in writing of the other party hereto.

(B) The AEG shall have the exclusive right (subject to rights of third parties under existing contracts, including renewals thereof, and to the rights herein reserved and received by the General Company) to grant licenses under the patents of both parties to manufacture and/or sell in those countries of the nonexclusive territory within continental Europe, but such license shall not include the right under the patents of the General Company to export other than to the exclusive territory of the AEG except with the consent in writing of the General Company.

(C) The General Company shall have the exclusive right (subject to the rights herein reserved and received by the AEG) to grant licenses under the patents of both parties hereto to manufacture and/or sell in those countries of the nonexclusive territory in the western hemisphere between the meridians of 30 degrees and 165 degrees west of the meridian of Greenwich, but such licenses shall not include the right under the patents of the AEG to export other than to the exclusive territory of the General Company except with the consent in writing of the AEG.

(D) All sub-licenses granted pursuant to this Article VI shall confer on the licensees no greater rights than those received under this Agreement by the granting party; and each sub-license shall be subject to all the restrictions imposed by this Agreement on the party granting such sub-license.

(E) Except as provided in Paragraphs (B) and (C) of this Article VI each of the parties hereto shall in any country of the non-exclusive territory have the right to grant sub-licenses for manufacture and/or sale under its own patents, and each of the parties hereto shall have the right to manufacture under its own patents.

(F) Neither of the parties hereto, without the written consent of the other may grant any rights in the non-exclusive territory under the patents originating with the other except as provided for in this Article VI.

ARTICLE VII. MUTUAL PATENT GRANTS

(A) The above grants in Articles IV and V apply to patents issued prior to or during the period of this Agreement in said countries and,

subject to Paragraph (C) of this Article, to all patents issued thereafter on applications filed during the period of this Agreement, to the extent that the party concerned can legally grant such rights.

(B) Each party hereto may elect to take out in its own name or have assigned to it, patents under which it is entitled to exclusive licenses hereunder, and each party agrees that in case the other party so elects the other party shall be entitled to claim such priority rights as may exist under the International Convention and the one party will cause the inventor or inventors in each case to do whatever is necessary or desirable so far as can be accomplished by enforcement of the contracts between the respective party and the inventors (but always at the expense of the other party) to the end that such other party may obtain and enforce such patents. This shall not require inventors to leave their home countries.

(C) At the termination of this Agreement all licenses hereunder granted shall become non-exclusive, and each party shall assign to the other party patents and patent applications acquired hereunder which are then existing subject to any licenses or rights granted to others, but each party shall be entitled to receive and the other party agrees to grant thereunder, non-exclusive licenses corresponding to the licenses granted herein, the said non-exclusive licenses to run for the terms for which the patents respectively are or may be granted, renewed, re-issued or extended.

(D) Each party agrees during the period of this Agreement to pay all of the fees, costs and expenses in the territory where it is entitled to exclusive manufacturing licenses (including such territory wherein one of the parties receives exclusive manufacturing licenses under the patents of the other party, subject to the reserved right of such other party to manufacture) hereunder of all patents within the scope of this Agreement taken out on inventions originating from the other Company for such territory for which applications may be made before notice is given to terminate this Agreement. However, in such territory wherein one of the parties receives exclusive manufacturing licenses under the patents of the other party subject to the reserved right of such other party to manufacture, each party shall continue to pay the said fees, costs, and expenses in respect of such of its own patents as have been taken out at the date when this Agreement goes into effect.

(E) All patents or rights under patents hereunder acquired by one party from the other party, or which hereafter may be conveyed to one party by or on behalf of the other party, shall be held by each party subject to the terms and conditions of this Agreement.

(F) Each party agrees that it will, during the period of this Agreement, maintain in full force and effect on the records of the Patent Office, all the patents and rights for the term for which they have been or may respectively be granted or extended by fulfilling all of the requirements of the laws of the countries of the territory where each respectively is entitled to exclusive manufacturing licenses (including such territory wherein one

of the parties hereto receives exclusive manufacturing licenses under the patents of the other party hereto subject to the reserved right of such other party to manufacture) hereunder in regard to the same, including the payment of taxes and working Patent Office fees and charges as may from time to time be required. However, it is understood and agreed that on adequate notice in writing or by telegraph to the other party, either party is free to elect not to take out and is also free to drop any patent on an invention originating with the other party, and in either such case the party with whom such invention originates is then free to take out and/or to maintain at his own expense such patent for his own exclusive benefit, and that each party respectively shall not be liable to pay any fees or charges in respect of any patents applied for after notice has been given to terminate this Agreement; provided that the party to whom such invention has been offered may at any time upon reimbursement of the expenses of taking out and/or maintaining such patent acquire the same rights thereunder as if he had himself taken out and/or maintained such patent.

(G) In those countries in which, pursuant to subdivision (A-2) of Paragraph (A) of Article IV, and subdivision (A-4) of Paragraph (A) of Article V, one party hereto receives manufacturing licenses under the patents of the other party hereto, the patents shall be taken out and maintained by the party receiving such manufacturing licenses at the cost of such party in the first instance; but a proportion of such cost shall be reimbursed to such party, the amount of which and the terms of payments, to be mutually agreed upon between the parties hereto. The basis of agreement as to the proportion of cost to be so reimbursed shall be the relation between the amounts of business within the scope of this Agreement done in such countries by the respective parties hereon and their associated and controlled companies and their licensees.

(H) Each party agrees that, if it possesses or shall acquire a controlling interest in any enterprise manufacturing and/or selling apparatus coming within the scope of this Agreement in any country, such enterprise shall be entitled to the benefits accruing to the controlling party by virtue of this Agreement, and shall (subject to existing rights of third parties) be bound by the obligations of the controlling party under this Agreement, but no rights are granted hereunder for manufacture or sale in any country other than those hereinbefore set forth.

Each party agrees that, if it possesses or shall acquire a less than controlling interest in any enterprise manufacturing and/or selling apparatus coming within the scope of this Agreement in any country, such enterprise shall not receive the benefits accruing to the acquiring party by virtue of this Agreement, unless it agrees to be bound by the obligations of the acquiring party under this Agreement; failing which the acquiring party shall use all reasonable diligence and effort to prevent such enterprise receiving any of the benefits so accruing to the acquiring party hereunder.

ARTICLE VIII. EXPORTATION OF APPARATUS

It is agreed that notwithstanding the provisions of this Agreement in regard to the restrictions of exporting apparatus to certain countries, that such restrictions shall not apply to apparatus attached to or made a part of any device made by others than each party or its controlled and associated Companies, which with such apparatus is sold and exported as a unit by others, but if either party shall actually know when it sells such apparatus that such apparatus is going to such territory the party making such sale shall pay to the other party a reasonable commission.

ARTICLE IX. TRADE-MARKS AND TRADE NAMES

In selling merchandise made by it, neither party may directly or indirectly, orally or in writing, use or refer to the Trade-Marks or Trade Names of the other during the period of this Agreement and thereafter, but where patents stand in the name of one party which were received from the other, or where exclusive licenses are held by either party which have been received from the other, then and so long as the patents or exclusive licenses are so held and not otherwise the holder of such patents or the exclusive licenses may, in selling hereunder for use in the respective countries where such patents or exclusive licenses obtain, refer to the fact that it is a Licensee of the other party.

ARTICLE X. INFORMATION AND EXPERIENCE

(A) The parties hereto agree to communicate to or otherwise render available for one another all experience and information on designing, engineering, technical and manufacturing matters, which they now have or may have during the period of this Agreement relating to the subject matter of this Agreement.

(B) The parties hereto consent to the maintenance of special agencies, in the United States by the AEG and in Germany by the General Company, in order to facilitate the exchange of such experience and information. They also agree to facilitate the personal collection of such experience and information by duly authorized representatives of the party seeking such information.

(C) All experience and information given by either party to the other in accordance with the provisions of this Agreement is for the other's own use and is to be kept confidential by it at all times whether during the period of this Agreement or thereafter, but may be communicated by it to controlled and associated Companies and others in the territory where it has manufacturing rights under the patents of the other party hereto on condition that such others receiving such communication agree to and do accept and observe the restrictions of this Agreement and particularly those of this Article X and of Article II hereof.

ARTICLE XI. LIMITATION OF GRANTING INFORMATION AND RIGHTS

The agreements here in contained with reference to disclosure of information on inventions and transfer of rights relating to inventions and patents shall be limited as follows:

(A) No information shall be required of any party which is properly the information of its Government.

(B) Such agreements shall be subject to such reasonable regulations as any party may find it necessary to make, in order to comply with the requirements of the Governmental Authorities to which it is subject.

(C) Such agreements shall be construed as agreements to grant such rights and information only so far as the law of the country, in which the party so agreeing is organized and incorporated, permits.

(D) Such agreements shall be construed as agreements to grant such rights and information only so far as the party so agreeing has power to grant.

(E) Such agreements shall be construed as applying to apparatus in or ready for commercial production or sufficiently advanced in the opinion of the releasing party to permit release of information.

ARTICLE XII. ASSOCIATED COMPANIES

In cases where the General Company or the AEG are associated with other Companies by contracts containing provisions similar in character to those of this Agreement, in respect to assignment of or licenses under patents, or with respect to the sale of apparatus coming within the scope of this Agreement, each party will during the period of this Agreement cause each such company so associated with it in each case to do whatever is necessary, so far as can be accomplished by enforcement of the agreement between each party and each such associated company, to secure for the other party hereto the benefits from such obligations of such associated Company, it being understood that each party shall use its best endeavours to carry out this provision, but neither shall be liable in damages for failure on the part of any such an associated Company to carry out such obligations.

The parties hereto agree to exchange lists of their associated and subsidiary Companies prior to January 1, 1939. Such lists shall be revised and supplemented from time to time as changes make necessary.

ARTICLE XIII. ARBITRATION

Any disagreements arising under the provisions of this Agreement shall be decided by arbitration, each party to appoint an arbitrator, and the two thus selected to designate a third. If either of the parties fail to appoint its arbitrator within 60 days after receipt of notice of the appointment by the other party of its arbitrator, or if their arbitrators fail to appoint the third, then the President of the International Chamber of Commerce shall

have the power on the request of either party to make the appointments which have not been made as contemplated above.

The decision of a majority of the arbitrators shall be final and binding upon the parties hereto; the expense of the arbitration shall be paid as the arbitrators may determine.

ARTICLE XIV. PERIOD OF AGREEMENT

This Agreement shall go into effect as of the date hereof, and shall continue in effect until December 31, 1941, and, unless terminated on that date, it shall thereafter continue in effect until terminated. This Agreement may be terminated on December 31, 1941, or on any subsequent date, by the General Company giving to the AEG, or by the AEG giving to the General Company, at least three (3) years' written notice of termination.

IN WITNESS WHEREOF, each of the above Companies has caused two original of these present to be executed by its properly authorized officers.

INTERNATIONAL GENERAL ELECTRIC COMPANY, INC.,
By CLARK H. MINOR,
ARTHUR BALDWIN.
ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT,
By H. BUCHER,
BODEN.

EXHIBIT A

1. Letter, dated September 12, 1923, from Allgemeine Elektricitäts Gesellschaft to International General Electric Company, Incorporated, stating the agreement between them is subject to prevailing conditions.

2. Letter-agreement, dated October 25, 1927, between International General Electric Company, Incorporated, and Allgemeine Elektricitäts Gesellschaft of the trademarks of International General Electric Company, Incorporated, under certain conditions.

3. Letter-agreement, dated January 20, 1930, between International General Electric Company, Incorporated, Allgemeine Elektricitäts Gesellschaft relating to the registration by Allgemeine Elektricitäts Gesellschaft and Electric Vacuum Cleaner Company.

4. Agreement, dated May 24, 1928, between International General Electric Company, Incorporated, Allgemeine Elektricitäts Gesellschaft, Brunswick-Balke Collender Company, Deutsche Grammophon-Aktiengesellschaft and Polyphonwerke Aktiengesellschaft.

5. Agreement, dated May 24, 1928, between International General Electric Company, Incorporated, and Allgemeine Elektricitäts Gesellschaft relating primarily to the division of royalties received by the Allgemeine Elektricitäts Gesellschaft under the agreement listed in (4) of this Exhibit A.

SUPPLEMENTAL AGREEMENT

AGREEMENT made this 7 October 1938, between the International General Electric Company, Incorporated, a corporation of the State of New York, United States of America, having its principal office in the City of New York in said State and the Allgemeine Elektrizitäts Gesellschaft, a company of the Republic of Germany, having its principal office in the City of Berlin, Germany.

Whereas, the parties hereto made and entered into an agreement, dated 7 October 1938 (familiarily known and hereinafter designated "the principal agreement"); and

Whereas, the parties hereto now desire to extend the principal agreement in the manner and to the extent hereinafter provided.

Now, therefore, in consideration of the premises and the mutual agreements herein contained, it is agreed as follows:

The fields not comprised in the scope of the principal agreement (for such scope see Article I, paragraph A) except such fields as are specifically excluded therefrom (see Article I, paragraph C), shall be considered as if they were comprised in such scope; provided, however:

(1) Each party shall offer to the other party inventions and developments relating to such fields for exploitation by manufacture subject to all the provisions of the principal agreement.

(2) In the event that the party to whom inventions and developments relating to such fields are offered for exploitation does not wish to exploit them pursuant to the methods specified in (1), the two parties hereto shall cooperate with a view to the granting of licenses to third parties (in the exclusive territory of the party to whom inventions and developments relating to such fields have been offered) for the exploitation of the inventions and developments relating to such fields. The rights of such third parties shall be limited to the exclusive territory of the party to whom the inventions and developments relating to such fields have been offered, unless a specific agreement has been made between the two parties hereto in regard to the extension of territorial rights under such licenses.

If the terms of such licenses include the supply of information and experience by the licensor, the licensee shall be required to supply to the licensor, for the benefit of the offering party, the information and experience of the licensee in respect of the licensed product.

All royalties received by one party from such licenses shall be divided equally between the parties hereto.

(3) The offering party agrees that any products within the fields included in the scope of this agreement manufactured by or for or under license from such offering party, shall, in the exclusive territory of the other party, be sold exclusively through such other party.

(4) When an invention relating to such fields is offered to either party with due notice from the other party that such invention is of particular value to the party offering the same, the party to whom it is offered agrees

to use its best endeavors to obtain such patent or patents in all countries of its exclusive territory, so that, as far as the patenting of such inventions is concerned, third parties may be restrained from manufacturing within its exclusive territory for export into the nonexclusive territory. The expense of taking out and maintaining such patents will be borne as follows:

- (a) In Germany, by the German Company.
- (b) In the United States of America, by the General Company.
- (c) In all other countries in the exclusive territories of both parties—50% by each party.

(5) Upon presentation by either party to the other of reasonable evidence that there are being sold in the nonexclusive territory articles infringing patented inventions relating to such fields, of one party or the other, manufactured in the exclusive territory of one party or the other, then the party in whose exclusive territory such articles are being manufactured agrees to exercise all reasonable effort to prevent such manufacture and to be reasonably governed by the instructions of the party offering inventions and developments relating to the fields for exploitation, who shall pay all expenses involved in carrying out such instructions.

(6) This agreement shall go into effect on 7 October 1938, and shall terminate concurrently with said principal agreement.

IN WITNESS WHEREOF, each of the parties hereto has caused two originals of these present to be executed by its properly authorized officers.

INTERNATIONAL GENERAL ELECTRIC COMPANY, INCORPORATED,
By CLARK H. MINOR,
ARTHUR BALDWIN.

ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT,
By H. BUCHER,
BODEN.

AGREEMENT RE SOUND FILM AND TELEFUNKEN INVENTIONS

THIS AGREEMENT made this 7 October 1938, by and between International General Electric Company, Inc. (hereinafter called "IGE"), and Allgemeine Elektricitaets Gesellschaft (hereinafter called "AEG"), is supplemental to and forms a part of an agreement between the parties hereto dated 7 October 1938, which latter agreement is hereinafter called "principal agreement."

It is agreed between the parties hereto as follows:

First: IGE hereby waives payment, until December 31, 1945, of all such royalties as may be payable by AEG to IGE under any existing agreement between them, in respect of such licenses as AEG has heretofore granted or may hereafter grant pursuant to the terms of said principal agreement in the "sound film field," (as defined or referred to in the

so-called "German-American film agreement," dated July 22, 1930, between AEG and certain other parties).

Second: IGE hereby acknowledges the following:

(1) That, pursuant to two certain agreements dated, respectively, November 20, 1919 (commonly known as "Agreement A"), and December 13, 1923, (commonly known as "Agreement E-1"), between the General Electric Company (hereinafter called "GE"), and Radio Corporation of America (hereinafter called "RCA"), RCA received, until January 1, 1945, the following:

(a) certain rights in the "old radio field" under patents on inventions originating with GE and IGE, and (b) certain rights in the "old radio field" under patents on inventions originating with certain other companies, to the extent that such rights were or might be transferable and subject to the agreements, including any modifications thereof, under which GE or IGE received or might receive such rights—but, with particular reference to such rights, if any, in the "old radio field" as GE or IGE may have acquired from other companies by bona fide purchase, the RCA was entitled to receive such rights (under said "Agreement A" and said "Agreement E-1") upon paying to GE or IGE a fair proportion of the price actually paid to or to be paid therefor by GE or IGE.

(2) That such rights as Telefunken may have received in the "old radio field" (by the RCA-Telefunken agreement of October 22, 1921) under the patents of the companies referred to in subdivision (1) of this Paragraph "Second," shall be deemed to be not affected by any agreements made and entered into on November 21, 1932, between IGE and any third party or parties, but it is understood that the rights granted to Telefunken in the RCA-Telefunken agreement of October 22, 1921, are and shall remain subject in all respects to said "Agreement A" and said "Agreement E-1," whereunder RCA received such rights from GE and IGE.

Third: AEG, to the extent that it is free and able to do so under existing contracts with Telefunken and others, hereby grants and agrees to grant to GE (including its subsidiary companies in the United States of America and Canada), until 31 December 1954, royalty free licenses under all of Telefunken's present and future patents of and for the following countries, namely:—United States of America, its territories, dependencies and possessions, including Alaska, Hawaii, Philippine Islands, Puerto Rico, Panama Canal Zone, Guam, Tutuila Group, Virgin Islands, and also, Canada and Newfoundland.

Such royalty free licenses are granted by AEG to GE (including its subsidiary companies in the United States of America and Canada), as aforesaid, in and for all fields and for all purposes, excepting only the fields of "radio purposes" (as defined in a certain agreement known as

Agreement A-1, dated November 21, 1932, between the Radio Corporation of America, General Electric Company and Westinghouse Electric & Manufacturing Company, with which agreement the parties hereto are familiar).

Such royalty free licenses are and shall be exclusive, except that Siemens & Halske Aktiengesellschaft has the right to grant licenses under all of Telefunken's present and future patents to one party in and for the territory and in and for the fields and purposes above mentioned, in this Paragraph "Third," to the same extent that AEG has herein granted licenses to GE (including its subsidiary companies in the United States of America and Canada).

Fourth: The AEG hereby consents to and agrees to use its best efforts to procure the consent of the Siemens & Halske Aktiengesellschaft, at the earliest practicable date, to a grant to the GE (including its subsidiary companies in the United States of America and Canada) of the right to grant nonexclusive sublicenses to others and to sue infringers under the licenses herein granted to the GE (including its subsidiary companies in the United States of America and Canada).

Fifth: IGE, to the extent that it is free and able to do so under existing contracts with the RCA and others, hereby grants and agrees to grant to AEG (including its subsidiary companies in Germany) royalty free licenses under patents on inventions originating with the RCA in and for all such fields and for all such purposes in respect of which AEG may now be entitled to receive licenses under the IGE-AEG principal agreement of 7 October 1938, but the licenses herein granted and agreed to be granted do not include (a) any rights under patents on inventions originating with or belonging to RCA or others in the field of "radio purposes" (as defined in a certain agreement known as "Agreement A-1," dated November 21, 1932, between the Radio Corporation of America, General Electric Company and Westinghouse Electric & Manufacturing Company with which agreement the parties hereto are familiar), (b) any rights in any fields or for any purposes which are now expressly excluded from the scope of said principal agreement, dated 7 October 1938, between IGE and AEG, and (c) any rights included within the scope of the supplemental agreement between IGE and AEG dated 7 October 1938.

Sixth: AEG hereby waives and releases all claims, past, present and future, against the GE and IGE in respect of any and all patents, licenses, information and other rights of GE or IGE granted by them, or either of them, to AEG, or to any third party on or prior to the date hereof—including all claims arising out of or caused by any acts or failures to act on the part of GE or IGE on or prior to the date hereof.

Seventh: Nothing in this present agreement shall be deemed to modify in any respect any existing agreements between the GE or IGE and any third party or parties.

IN WITNESS WHEREOF, each of the parties hereto has caused this instrument to be executed on this 7 October, 1938, by its duly authorized officer or agent.

INTERNATIONAL GENERAL ELECTRIC COMPANY, INCORPORATED,
By CLARK H. MINOR,

ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT,
By H. BUCHER,
BODEN.

Source: Bone Committee, *Patent Hearings*, Part I, pp. 232 ff.

APPENDIX VIII F

AGREEMENT OF 1939 BETWEEN BRITISH AND AMERICAN CHEMICAL INDUSTRIES

DATED 30TH JUNE 1939.

IMPERIAL CHEMICAL INDUSTRIES LIMITED AND E. I. DU PONT DE NEMOURS
AND COMPANY—ARTICLES OF AGREEMENT

ARTICLES OF AGREEMENT made as of the Thirtieth day of June One thousand nine hundred and thirty-nine BETWEEN IMPERIAL CHEMICAL INDUSTRIES LIMITED a Corporation organised under the laws of Great Britain (hereinafter called "I. C. I.") party of the first part and E. I. DU PONT DE NEMOURS & COMPANY a Corporation organised under the laws of Delaware United States of America (hereinafter called "du Pont") party of the second part.

WITNESSETH—

WHEREAS both I. C. I. and du Pont are engaged in the development manufacture and sale of a broad line of chemicals and chemical products both in their respective home countries and in other countries and maintain research and development organisations for the purpose of expanding their present activities as well as developing new industries

AND WHEREAS it is the opinion of the parties to this Agreement that the liberal exchange of information between the personnel of the respective research establishments pertaining to the inventions to which the parties shall be licensed hereunder stimulates research activity, contributes to the advancement of the art and avoids unnecessary expense

AND WHEREAS each of the parties hereto desires the right to acquire licenses in respect of the patented and secret inventions of the other party upon and subject to the conditions hereinafter set forth

AND WHEREAS as of the First day of July One thousand nine hundred and twenty-nine the parties hereto entered into an agreement with the above objects in view for the period of ten (10) years from the date thereof

AND WHEREAS in these Articles of Agreement the "Agreement period" shall mean the period beginning on and including the Thirtieth day of June One thousand nine hundred and thirty-nine and continuing until determined in manner hereinafter provided

AND WHEREAS the said parties desire to extend the relationship established by said agreement and to substitute in lieu thereof the following agreement

NOW THEREFORE in consideration of the premises and of the covenants herein contained the parties have agreed as follows:—

I. EXCHANGE OF INFORMATION

(A) During the Agreement period each of the parties shall disclose to the other as soon as practicable which shall in any event mean within nine months from the date of filing application for letters patent or from the time any secret invention becomes commercially established information in respect of all inventions now or hereafter during the Agreement period owned or controlled by it sufficient to enable the other party to determine whether it desires to negotiate for licenses covering any or all of such inventions.

(B) Each of the parties agrees whenever and so often as requested by the other during the Agreement period in respect of inventions relating to the products specified herein to furnish copies of all applications for letters patent patent specifications and copies of writings setting forth any secret invention and such further information as the other party shall reasonably request.

(C) Each of the parties shall forthwith appoint one or more competent trustworthy and experienced persons in its employ for the purpose of receiving from the other party the information required to be disclosed under the foregoing provisions and shall notify the other party of such appointment. Whenever and so often as the other party shall request and at the expense of such other party each party shall supply experienced chemists, engineers, foremen, and other experts to assist such other party in investigating or testing any invention disclosed as aforesaid or in applying or using any invention covering which licences may have been granted to it hereunder, *Provided however*, that the party called upon for such technical assistance may arrange to furnish same at such time and in such manner as will not materially impede or interfere with its own activities and operations.

(D) An invention shall be deemed to be controlled within the meaning of these Articles of Agreement whenever either party shall be able to grant to the other any licence to practise and exercise the same which the other party may be entitled to demand under the terms hereof.

II. RIGHTS TO ACQUIRE LICENCES

(A) I. C. I. shall upon request grant to du Pont the sole and exclusive licence to practise and exercise within the countries of North America and Central America exclusive of Canada, Newfoundland, and British possessions but otherwise inclusive of the West Indies, the Philippine Islands and within all present and future colonies and possessions of the United States of America except as otherwise provided in Section III hereof any and all patented and secret inventions now or hereafter during the Agreement period owned or controlled by I. C. I. relating or applicable to the

products hereinafter specified and to sell within said territories any and all of said products utilising such inventions, *Provided, however*, that I. C. I. reserves for itself the right to sell within said territory any and all products utilising any of such inventions (as referred to above Central America shall be deemed to comprise the region between North and South America extending from about North latitude seven degrees to North latitude eighteen degrees that is from Colombia to Mexico between the Caribbean Sea and the Pacific Ocean and the West Indies shall be deemed to comprise those groups of islands lying off the south-east coast of North America and extending from near the coast of Venezuela northward to the latitude of North Carolina). In the event any such inventions shall also relate or be applicable to products not hereinafter specified any licence granted pursuant hereto shall be restricted to the said hereafter specified products.

(b) du Pont shall upon request grant to I. C. I. the sole and exclusive license to practise and exercise within the countries of the British Empire (exclusive of Canada and Newfoundland) Eire and Egypt except as otherwise provided in Section III hereof any and all patented and secret inventions now or hereafter during the Agreement period owned or controlled by du Pont relating or applicable to the products hereinafter specified and to sell within said territories any and all of said products utilising such inventions: *Provided, however*, that du Pont reserves for itself the right to sell within said territory any and all products utilising any of such inventions. In the event any such inventions shall also relate or be applicable to products not hereinafter specified any licence granted pursuant hereto shall be restricted to the said hereafter specified products.

(c) Each of the parties shall upon request grant to the other a non-exclusive licence to practise and exercise within any and all countries other than Canada and Newfoundland not within the exclusive territories specified above except as otherwise provided in Section III hereof any and all patented or secret inventions now or hereafter during the Agreement period owned or controlled by them respectively relating or applicable to those products hereinafter specified in Section III hereof which are now (June 30th 1939) manufactured by both parties on a commercial scale or to those industries listed in Section III hereof in which both parties are now (June 30th, 1939) engaged and to sell within said territories any and all products utilising such inventions excepting however from the operation of this paragraph (c) inventions which constitute an important contribution to technical science and result in a product or products which have novel and unusual qualities and which are more than improvements on or substitutions for products now made by both parties.

With respect to inventions which would otherwise fall within the provisions of this paragraph (c) and which constitute an important contribution to technical science and which result in a device or a process which radically changes existing methods of manufacture it is understood and

agreed that the parties hereto shall in each case discuss with each other whether an exception from the operation of this paragraph shall apply to such inventions.

In the event any invention falling within the scope of this paragraph (c) shall also relate or be applicable to products not now manufactured by both parties on a commercial scale or to industries in which both parties are not now engaged any licence granted pursuant hereto shall be restricted to the said specified products (specified in Section III) now manufactured by both parties or to industries (specified in Section III) in which both parties are now engaged.

(d) Countries and territories not within the exclusive licence territory of either party as defined above but which may now or hereafter be administered under mandate by the British Empire or by the United States of America or which may become a part of either sovereignty by proper authority shall be considered as part of the British Empire or of the United States respectively so long as so administered but whenever the respective sovereign power no longer exercises full political control over or administers any such country or territory it shall be considered as nonexclusive territory under subparagraph (c) above.

(e) Licences granted as aforesaid under any patented invention shall remain in effect to the end of the term for which such letters patent shall be granted or extended in the countries covered thereby and licences granted as aforesaid under any secret invention shall remain in effect so long as such invention shall remain secret or in event letters patent are subsequently obtained covering such invention to the end of the term for which such letters patent shall be granted or extended in the countries covered thereby.

(f) Licenses granted as aforesaid shall be subject to adequate and justifiable compensation to be agreed upon by separate negotiations but it is understood that such compensation will be determined except as hereinafter specially provided under broad principles giving recognition to the mutual benefits secured or to be secured hereunder without requiring detailed accounting or an involved system of compensation.

III. PRODUCTS

The exchange of information provided in Section I and the rights to acquire licenses granted in Section II shall apply to all inventions relating to the following products and industries:

(A) Explosives for industrial purposes including black powder in all varieties, smokeless propellants for sporting purposes, disruptive explosives of all kinds for industrial purposes, blasting caps, electric blasting caps, fuses (excluding safety fuses and detonating fuses), electric igniters, and generally all devices for initial descriptions or ignition of industrial explosives, and the ingredient and component

parts of the above insofar as they are applicable to industrial explosives but expressly excluding explosives designed for military purposes.

(b) Cellulose and its derivatives for use in the chemical industry and products therefrom such as plastics and film but excluding (1) cellulose acetate and all types of rayon such as viscose acetate and cupra-ammonium, (2) all types of thin sheeting such as viscose ("cellophane") and acetate caps and bands and artificial sausage casings, (3) artificial sponges, and (4) products covered under sub-paragraphs (c), (d), and (e) below: *Provided, however*, that the activities of Societa Italiana Celluloid and Societa Anonima Mazzucchelli (in which du Pont has stock interest) in this industry within the exclusive license territory of I. C. I. will continue until such time as may be mutually agreed upon between the parties hereto: *Provided, however*, with respect to plastics derived from cellulose, the countries of Germany, Italy, and France, including colonies and possessions thereof, shall be exclusive license territory of du Pont.

(c) Coated textile products including components thereof as covered under subparagraph (b) hereof *Provided however* with respect to artificial leather, leather-cloth, leather, rubber-cloth, and other analogous products the rights for the Commonwealth of Australia including British New Guinea and territories administered under the control of the Government of Australia and the Dominion of New Zealand including the territories administered under the control of New Zealand (Australasia) heretofore or hereafter granted by du Pont and rights under inventions originating in any Australasian company controlled by I. C. I. and heretofore or hereafter granted by I. C. I. to du Pont shall not be subject to further compensation until subsequent to the Thirtieth day of June One thousand nine hundred and forty-nine except that in the case of an invention acquired by the grantor from others the grantee shall reimburse the grantor for such portion of the compensation paid as is reasonably attributable to the rights thereunder for the territory of the grantee.

(d) Coated reticular bases suitable for use as glass substitutes such as "Cel-o-glass."

(e) Paints varnishes lacquers and other finishes and components for use therein: *Provided, however*, the countries of Germany, Italy, and France including colonies and possessions thereof shall also be exclusive license territory of du Pont: *Provided further*, however, with respect to cellulose finishes containing as an essential ingredient, nitro-cellulose having a viscosity characteristic below five seconds Hercules Standard ("Duco") and finishes containing alkyd resins as an essential ingredient ("Dulux") together with undercoats for use therewith and alkyd resins (containing more than Fifteen per centum polyhydric alcohol--polybasic acid component) for use in the manufacture of varnishes that any rights heretofore or hereafter granted to du Pont

under inventions relating to said products and any rights granted to I. C. I. for its exclusive territory only that is the British Empire (excluding Canada and Newfoundland) Egypt and Eire shall not be subject to compensation hereafter payable by the grantee until subsequent to the Thirtieth day of June One thousand nine hundred and forty-nine except that in the case of an invention acquired by the grantor from others the grantee shall reimburse the grantor for such portion of the compensation paid as is reasonably attributable to the rights thereunder for the territory of the grantee.

(F) Pigments excluding titanium pigments ceramic opacifiers and ceramic colouring materials.

(G) Acids and salts and other inorganic chemicals suitable for manufacture by the Inorganic Chemicals Industry excluding silicate of soda, metallic zinc, ceramic opacifiers, ceramic colouring materials, and precious metals decorative materials.

(H) The general alkali industry and the chlorine industry are excluded from this Agreement but the following chlorine derivatives are included:—

(1) All organic chlorine derivatives excluding neoprene.

(2) All inorganic chlorine derivatives except alkaline and alkaline earth, hypochlorites, chlorine in the form of liquid chlorine, synthetic hydrochloric acid, sulphuryl chloride, sulphur monochloride, sulphur dichloride and derivatives which are byproducts of the ammonia-soda process but only in regard to processes producing them in connection with the ammonia-soda process.

With respect to the following chlorine derivatives—

Aluminum chloride
 Antimony pentachloride
 Chlorinated diphenyl
 Ethylene glycol (insofar as it involves chlorination processes)
 Ferric chloride
 Ferrous chloride
 Stannous chloride
 Thionyl chloride
 Tetrachlorethane
 Pentachlorethane
 Cis and trans dichlorethylene
 Trichlorethylene
 Perchlorethylene
 Ethyl chloride
 Methyl chloride
 Chloroform
 Monochloroacetic acid
 Monochlorobenzene

Benzochloride
Benzyl chloride
Ortho and para dichlorobenzenes
Chlorinated naphthalenes
Chlorinated paraffin waxes
Alloprene (chlorinated rubber)

I. C. I. shall have the right to grant a nonexclusive licence under du Pont inventions in the countries of Continental Europe to Solvay et Cie and its affiliated companies *Provided however* no sublicense shall be issued by I. C. I. where such licence would conflict with du Pont commitments to third parties, *and provided further* that I. C. I. shall secure from Solvay et Cie the right to grant a non-exclusive licence to du Pont under Solvay inventions relating to these products for du Pont exclusive territory.

(I) Fertilizers.

(J) Alkali metals such as metallic sodium and chemicals manufactured from these metals such as cyanides and peroxygen compounds (including hydrogen peroxide).

(K) Synthetic ammonia, synthetic alcohol, and other products on high-pressure synthesis excluding products of the hydrogenation of crude petroleum peat shale lignite coal and solid and liquid products made therefrom to produce those marketable products which are now commonly produced in the oil industry. The catalytic production of hydrogen is included except for use in the hydrogenation of crude petroleum peat shale lignite coal and solid and liquid products made therefrom.

(L) Insecticides, fungicides, products for pest control and disinfestants.

(M) Alcohols manufactured by either synthetic or fermentation processes other than synthetic alcohols as covered in subparagraph (K) above.

(N) Synthetic resins and plastics.

(O) Chemicals of the synthetic organic chemical industry including but not limited to:—

(1) Pharmaceutical and medicinal chemicals.

(2) Formaldehyde, lactic acid, acetic acid, formic acid, and hydrogen cyanide.

(3) Dyestuffs and intermediates.

(4) Plasticisers.

(5) Wetting agents, detergents, textile finishing agents, waterproofing agents, water repellents, and other assistants for the textile, leather, paper, and allied industries.

(6) Rubber chemicals.

(7) Motor fuel, antioxidants, lubricant assistants, and other petroleum chemicals.

(8) Photographic chemicals, except photographic films.

(p) Antiknock compounds and mixtures, excluding, however, from this Agreement lead alkyls and lead sodium alloy therefor for antiknock purposes. With respect to antiknock compounds other than lead alkyls which compounds and mixtures added to motor fuel in the proportion of not more than one per centum (1%) by volume or added to the explosive charge of an internal-combustion engine in the proportion equivalent to not more than one per centum (1%) by volume of the liquid fuel shall have an effect in inhibiting detonation which is equivalent to that produced by one (1) cubic centimetre of tetraethyl lead per United States gallon of average commercial gasoline as currently marketed any license issued pursuant to this Agreement by du Pont to I. C. I. for antiknock purposes shall be non-exclusive and with respect to I. C. I. inventions any licence issued to du Pont shall include the right to grant a nonexclusive license in the United States to Ethyl Gasoline Corporation.

(q) Perfumes flavouring compounds and bases therefor.

(r) Camphor.

(s) Ore flotation agents.

(t) New synthetic products not classified strictly as chemicals, but which are suitable for exploitation by either of the parties because production is essentially chemical in nature, such as neoprene, nylon, ardil, and polythene.

The application of the rights granted hereunder relating to the products specified above shall be subject to the terms of all existing relations and agreements between either or both of the parties hereto and other parties as provided in Section XI hereof. For purposes of reference only a list of such agreements is attached hereto marked Schedule "A," but it is understood however that such list is not necessarily all-inclusive.

In the interpretation or construction of the industries and products listed in this Section III it is to be recognised that such industries and products shall be classified according to the construction of the commercial chemical industry rather than from either a strictly scientific viewpoint or from a non-technical viewpoint it being recognised that both processes of manufacture and commercial uses must be considered in arriving at a logical industrial and technological classification.

IV. EXCLUDED INVENTIONS

(A) Governmental objection or prohibition shall be a valid plea on the part of either of the parties hereto to decline to disclose or to grant rights with respect to technical information, know-how, industrial designs, information and inventions, which but for such objection or prohibition

would come within the operation of this Agreement. It is further understood and agreed that either party may exclude from the operation of this Agreement any invention or secret information, which in its opinion, relates to products designed primarily for the destruction of human life or property in war.

(b) Either party may exclude from the operation of this Agreement any rights under any inventions which it may reasonably be impelled to grant to others in settlement of pending or threatened patent litigation or interference proceedings, *provided however*, that each party shall first advise the other party of its intention to make such exclusion and, *further provided*, that such excluded rights are limited to the patent or patent application involved in the litigation or interference.

V. ELECTION TO ACCEPT LICENCE

Whenever the party owning or controlling an invention relating to the products specified herein for which no license has been requested by the other party shall decide that it is advisable to utilise such invention or to exploit any product containing same within the territory which under this Agreement is designated as the exclusive license territory of the other, it shall serve upon the other party a notice in writing, setting forth the terms and conditions upon which the other party may obtain such exclusive license thereunder. The other party shall elect within a reasonable time, after receipt of said notice, whether it accepts such licence upon the terms and conditions set forth in said notice or upon such other terms and conditions as the parties may agree upon, but if the parties shall fail so to agree within a reasonable time such licence shall be deemed to have been rejected and the party owning or controlling the invention shall be free to license others so to use, or exploit such invention, or products within such territory, *providing however*, that no such licence shall be granted to others upon terms and conditions more favourable than those offered to and rejected by the other party, hereto, without giving to the latter a reasonable opportunity to accept such licence upon such other terms.

VI. LICENCES TO CUSTOMERS

It is understood that either party may license its customers to sell any and all products of such party outside its licence territory insofar as they constitute ingredients or raw materials in the finished goods of such customers and regardless of whether such products or their use in the finished goods utilise inventions obtained from the other party hereto.

VII. COOPERATION IN SECURING NEW LICENCES

Each of the parties agrees that if during the Agreement period it shall obtain, acquire, or possess a right in or licence under any patented or secret invention relating to the products specified herein which right or license is so limited that the party obtaining, acquiring, or possessing the same can make no grant or licence to the other party upon the terms and condition herein set forth on the written request of the other party it shall

use its best efforts to assist such other party to obtain or acquire a right in or under such invention but neither party shall be under any obligation to purchase or to pay for any right or licence for the benefit of the other.

VIII. AID IN PROTECTING LICENCES

(A) Each of the parties agrees to execute and deliver all such instruments in writing and to do all such things as may be necessary or proper for the purpose of further assuring and confirming any licences granted or agreed to be granted pursuant to these Articles of Agreement or for the purpose of enabling such licences to be filed or recorded in any public office and further to do whatever may be reasonably necessary to carry out the intent of these Articles of Agreement.

(B) Should it appear at any time that any of the inventions in respect of which licence has been granted or agreed to be granted to either party is the proper subject for letters patent in any territory for which rights have been so granted or agreed to be granted the licensor will in conjunction with the first and true inventor upon the request and at the expense of the licensee apply for and use its best efforts to obtain the grant of letters patent or similar protection in respect of any of such inventions in such of said territories as the licensee may require unless the party disclosing such invention demands that it be kept secret.

(C) Neither party shall be bound to defend any letters patent under which any license shall have been granted hereunder but each of the parties agrees whenever and so often as requested by the other party but at the expense of such other party to assist to the fullest possible extent in defending or protecting any such letters patent.

(D) Each party shall pay all fees and expenses for the maintenance of any patents in any territory in which the exclusive right shall have been granted to such party and each party shall pay one-half of the fees and expenses for the maintenance of any patents in any territory in which joint rights exist under this Agreement. Maintenance herein shall be deemed to include only payments of official fees, taxes, and incidental expenses but shall not include expenses of litigation.

IX. DUTY NOT TO IMPAIR RIGHTS OF OTHER PARTY

Each of the parties agrees not to make or consent to any disclosure or to do or consent to any other act that shall impair or depreciate the value of any licence granted by it in pursuance of these Articles of Agreement or that shall impair or depreciate the value of the right title and interest retained by the other party in any such patented or secret invention and to take all reasonable care to prevent any such disclosure or act but shall not in the absence of bad faith or gross negligence be liable in damages therefor. Each of the parties further agrees not to disclose any secret information received from the other party to these Articles of Agreement except for the purposes of exploiting any invention licensed hereunder by said other party.

X. SUBLICENCES

Each of the parties to whom any licence shall have been granted as herein provided may grant within the limitations of such licence sublicences in respect thereof to any or all of its respective subsidiary companies but every such sublicense shall be subject to all the terms and conditions contained in the grant of the licence so sublicensed. No sublicense in respect of any such licence shall be granted by any sublicensee nor by either of the parties hereto except as hereinbefore provided without the consent in writing first obtained from the original licensor.

XI. EFFECT OF EXISTING AGREEMENTS

It is understood that both parties have established business relations through stock ownership in affiliated corporations and under agreements with other companies relating to the products specified herein and each of the parties expressly recognises that the provisions of this Agreement are subordinate and subject to all such existing relations or agreements wherever it may conflict therewith. In the event any such existing relation or agreement of either party shall prevent its compliance with the provision of this Agreement the other party may exclude from the operation of this Agreement the subject matter of such existing relation or agreement insofar as it shall conflict with this Agreement. Each of the parties agrees, however, that in negotiating for the renewal of any such relations or agreements which may expire during the existence of this Agreement it shall endeavour to effect such renewals on such basis or terms as will harmonise as fully as possible with the provisions of these Articles of Agreement.

XII. ARBITRATION

Should any difference or dispute arise between the parties hereto touching these Articles of Agreement or any clause, matter, or thing relating thereto or as to the rights, duties, or liabilities of either of the parties hereto the same shall be referred to the President for the time being of E. I. du Pont de Nemours & Company and the Chairman for the time being of Imperial Chemical Industries Limited who shall arbitrate and their award shall be final. Should they not agree they shall appoint an umpire whose awards shall be final and the following provisions shall apply. If the question or matter to be decided is brought forward by I. C. I. the umpire shall be European; if on the contrary the question or matter to be decided is brought forward by du Pont the umpire shall be an American. Should the President and the Chairman disagree as to the appointment of an umpire, then the umpire, if a European, is to be appointed by the President of the Incorporated Law Society of England, and if an American, to be appointed by the President of the Association of the Bar of the City of New York.

XIII. PARTIES IN INTEREST

(A) The benefits and obligations of these Articles of Agreement shall inure to and be binding upon the parties hereto and their respective suc-

cessors but shall not be assignable by either party without the consent in writing first obtained from the other party.

(B) Subject to the provisions of Article VII hereof the terms and provisions of these Articles of Agreement shall apply to inventions owned or controlled by the respective subsidiary companies of each of the parties hereto and each of said parties undertakes and assumes for and on behalf of its subsidiary companies all the duties and obligation of these Articles of Agreement relating to such inventions. To this end each of the parties shall endeavour to obtain promptly from each subsidiary company in which it now or hereafter owns less than all of the outstanding stock a consent to be bound by the provisions of these Articles of Agreement.

(c) As used throughout these Articles of Agreement the term "subsidiary company" shall include African Explosives and Industries Limited and shall be deemed to mean any corporation in which either party owns or controls a majority of the outstanding voting stock and any corporation similarly owned or controlled by any subsidiary or subsidiaries, *provided however* that Remington Arms Company Incorporated and Kinetic Chemicals Incorporated shall not be deemed to be subsidiaries of du Pont for the purposes of these Articles of Agreement.

XIV. TERMINATION

Subject to Article II (E) the provisions of these Articles of Agreement may be terminated and cancelled by either party upon the expiration of six (6) calendar months' previous written notice to the other party given at any time after the Thirtieth day of December One thousand nine hundred and forty-eight, *provided however*, in the event a state of war should be proclaimed by the Government of the country of either party the provisions of these Articles of Agreement (subject as aforesaid) may be terminated at any time by either party upon written notice to the other party.

IN WITNESS whereof E. I. du Pont de Nemours & Company has caused its Corporate Seal to be hereunto affixed and this Agreement to be signed in its corporate name by its President and Assistant Secretary and Imperial Chemical Industries Limited has caused its Common Seal to be hereunto affixed in the presence of and this Agreement to be signed by one of its Directors and its Secretary at the City of London, England, as of the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY L. S.
By L. DU PONT, *President*.

Attest: C. R. M.
E. A. HOWARD, *Asst. Secretary*. F. S.

THE COMMON SEAL of Imperial Chemical Industries Limited was hereunto affixed in the presence of

L. S.
McGOWAN, *Director*.
R. A. LYNEX, *Assistant Secretary*.

APPENDIX VIII G

TRI-PARTY AGREEMENT OF 1936 BETWEEN AMERICAN-BRITISH-CANADIAN CHEMICAL INDUSTRIES

THIS AGREEMENT, made as of the day of 1936, between
IMPERIAL CHEMICAL INDUSTRIES, LIMITED, a corporation organized and
existing under the laws of Great Britain, hereinafter called "I. C. I.",

E. I. DU PONT DE NEMOURS & COMPANY, a corporation organized and
existing under the laws of Delaware, United States of America, herein-
after called "du Pont," and

CANADIAN INDUSTRIES LIMITED, a corporation organized and existing
under the laws of the Dominion of Canada, hereinafter called "C. I. L.",

WITNESSETH:

WHEREAS the parties hereto are engaged in the development, manu-
facture and sale of a broad line of chemicals and chemical products, and
maintain research and development organizations for the purpose of ex-
panding and improving their present activities and products as well as
developing new industries; and

WHEREAS I. C. I. and du Pont separately own substantial amounts of
the capital stock of C. I. L., and it is desired that the latter be entitled to
utilize the patented and secret inventions of I. C. I. and du Pont, and that
said stockholders be entitled to utilize the inventions of C. I. L.; and

WHEREAS the parties have either directly or through their predecessors
entered into two agreements, dated January 1, 1925 and January 1, 1926,
granting rights in their respective inventions, which agreements have been
supplemented by informal interpretations, understandings and practices of
the parties; and

WHEREAS it is desired to redefine and to embody in one instrument the
terms of said contractual relationship;

NOW, THEREFORE, in consideration of the premises and of the covenants
hereinafter set forth, the parties have agreed as follows:

I. DEFINITIONS

As used herein—

(1) The term "inventions" shall be deemed to mean inventions, proc-
esses and technical information, whether patented or secret.

(2) The term "British Empire" shall be deemed to mean all present
and future countries, colonies, possessions and mandated territories thereof,
inclusive of Egypt but exclusive of Canada and Newfoundland.

(3) The term "United States" shall be deemed to mean the United States of America and all present and future countries, colonies, possessions and mandated territories thereof and the Philippine Islands.

(4) "Central America" shall be deemed to comprise the region between North and South America, extending from about N. latitude 7° to N. latitude 18°, that is from Colombia to Mexico, between the Caribbean Sea and the Pacific Ocean.

(5) The "West Indies" shall be deemed to comprise the groups of islands lying off the southeast coast of North America and extending from near the coast of Venezuela northward to the latitude of North Carolina, exclusive of British possessions.

(6) An invention shall be deemed to be "controlled" by any party hereto, whenever such party shall be able to grant rights thereunder, as provided herein, within the territory or territories of the other parties.

(7) The term "subsidiary company" shall be deemed to mean any company in which any party hereto owns or controls a majority of the outstanding voting stock, and any company similarly owned or controlled by any subsidiary or subsidiaries.

(8) Wherever reference is made to any party hereto, it shall be deemed to include the present and future subsidiary companies of said party, so long as the latter's ownership or control thereof continues.

(9) The term "principals" means I. C. I. and du Pont.

II. GRANT OF RIGHTS TO C. I. L.

(a) I. C. I. shall grant to C. I. L., upon request, the exclusive right to practice any and all inventions now or during the term of this agreement owned or controlled by I. C. I., relating to the products listed in Article IV hereof under categories A, C, and D, and to make, use, and sell any and all of said products embodying such inventions, within the Dominion of Canada and the Colony of Newfoundland.

(b) Du Pont shall grant to C. I. L., upon request, the exclusive right to practice any and all inventions now or during the term of this agreement owned or controlled by du Pont, relating to the products listed in Article IV hereof under categories B, C, and D, and to make, use, and sell any and all of said products embodying such inventions, within the Dominion of Canada and the Colony of Newfoundland.

(c) The aforesaid grants by I. C. I. shall confer no right on du Pont, and the aforesaid grants by du Pont shall confer no right on I. C. I., to practice said inventions or to make, use, or sell the products embodying the same.

III. GRANT OF RIGHTS BY C. I. L.

(a) C. I. L. shall grant to I. C. I., upon request, the right to practice any and all inventions now or during the term of this agreement owned

or controlled by C. I. L., other than those relating to the products classified in Article IV under category B, and the right to make, use, and sell any and all products embodying such inventions; which rights, except as otherwise provided in paragraph (c) below, may be exercised within the following territories:

(1) The rights so granted with respect to inventions relating to products classified under category A of Article IV may be exercised throughout the world, excepting Canada and Newfoundland;

(2) The rights so granted with respect to inventions relating to other products may be exercised throughout the world, excepting North America, Central America, and the West Indies.

(b) C. I. L. shall grant to du Pont, upon request, the right to practice any and all inventions now or during the term of this agreement owned or controlled by C. I. L., other than those relating to the products classified in Article IV under category A, and the right to make, use, and sell any and all products embodying such inventions; which rights, except as otherwise provided in paragraph (c) below, may be exercised within the following territories:

(1) The rights so granted with respect to inventions relating to products classified under category B of Article IV may be exercised throughout the world, excepting Canada and Newfoundland;

(2) The rights so granted with respect to inventions relating to other products may be exercised throughout the world, excepting Canada, Newfoundland, and the British Empire.

(c) The licence territories of I. C. I. and du Pont, notwithstanding the foregoing descriptions, shall conform to their respective licence territories as defined in the agreement between said parties dated July 1, 1929, in the agreement between I. C. I. and Remington Arms Company, Inc., dated August 20, 1935, and in any existing and future supplements thereto, insofar as the latter licence territories may apply to inventions relating to any groups of processes and products covered herein.

(d) The rights granted to each of the principals under this Article shall be exclusive, subject to the rights granted hereunder to the other principal.

IV. PRODUCTS

(a) The rights granted by I. C. I. and du Pont under this agreement shall apply initially to inventions relating to the products listed below according to the following categories:

A—Those in which I. C. I. and C. I. L. are engaged.

B—Those in which du Pont and C. I. L. are engaged.

C—Those in which all parties are engaged.

D—Those in which C. I. L. alone is engaged.

	Products	Category
Coated Textiles Group:		
Pyroxylin coated and/or impregnated or laminated fabrics		C
Rubber coated and/or impregnated or laminated fabrics		C
Tontine		B
Artificial suede		C
Cellulose Film Group:		
Transparent regenerated cellulose film in rolls and sheets in all grades		B
Moistureproofing lacquers for coating films and papers		B
Viscose		B
Plastics Group:		
Articles manufactured from pyroxylin and cellulose acetate plastics in sheets, rods, and tubes from vinyl acetate moulding powders		B
Combs from hard rubber		B
Composite sheeting for collars, cuffs, toiletware, and handbags		B
Finishes Group:		
Synthetic Resin Finishes		C
Alkyd resins		C
Adhesives, including pyroxylin cement		C
Cleaners		C
Driers		C
Enamels		C
Lacquers		C
Paints		C
Polishes		C
Fillers, including "Plastic Wood"		C
Stains		C
Thinner Mixtures		C
Varnishes		C
Waxes		C
Fertilizers (and Insecticides) Group:		
Mixed Fertilizers		A
*Ammonium Phosphate		C
*Lead Arsenate		C
*Calcium Arsenate		C
Super-Phosphate and *Ammoniated Super-Phosphate		C
Acidulated Bone Char		D
Ground Phosphate Rock		C
Soil Insecticides:		
Coke and Naphthalene Hop Spray Mixture		D
Lime and Copper Sulphate		B

Mineral Stock Food	D
Lime-Sulphur Spray	B
Sodium Arsenite	C
Calcium Bisulphite	A
Recrystallized Muriate of Potash ..	D
Explosives and Ammunition Group:	
Ammonium Nitrate	C
Blasting Caps, plain and electric; delay action	C
Blasting Explosives	C
Blasting Supplies and Accessories	C
Charcoal	C
Covered Wire	C
Dinitrotoluol	C
Fillers and Absorbents for Explosives	C
Fulminate	C
Glycerine	C
Lead Azide ..	C
Leadtex Elements ..	D
Lead Sulphocyanate	D
Lead Styphnate	C
Lighthouse Bombs, Fog Signals	A
Methods and Materials involved in the packing, transport, and use of commercial explosives and ammunition	C
Miscellaneous drawn and pressed metal articles; nonferrous metal strip, tubes, and rods	A
Nitrocotton	C
Nitroglycerine	C
Nitro-di-glycerine ..	B
Nitro Glycol	C
Nitrated Glycol, Glycerine, and Sugar Mixtures	C
Paper Tubes	C
Railway Fuses ..	D
Railway Track Signals	D
Safety Fuse	A
Sporting Ammunition ..	C
Sporting Powders	C
Styphnic Acid	C
Tetrazene	C
Trinitrotoluol	C
Central Chemicals Group:	
Acid, Acetic	C
“ Hydrochloric	C
“ Nitric	C
“ Sulphuric	C

<i>Products</i>	<i>Category</i>
Alkali Cleansers	A
Ammonia, Aqua	C
Ammonia, Anhydrous	C
*Ammonium Chloride	C
Ammonia Persulphate	B
*Ammonium Sulphate	C
Anodes, Brass	D
" , Cadmium	B
" , Copper	D
" , Nickel	D
" , Zinc	B
Brine (Sodium Chloride)	A
Buffing Compounds	D
Caustic Soda	C
Chloride of Lime	A
Chlorine	C
Copper Carbonate	D
Copper Cyanide	C
Copper Sulphate	D
Ferric Chloride	C
Ferrous Sulphate	B
Glauber's Salt	C
*Higher Alcohol Sulphates	C
Hydrogen	C
Hydrogen Peroxide	B
Magnesium Sulphate	D
Miscellaneous Electroplating and Polishing Equipment and Supplies	D
Nickel Carbonate, Plastic	D
*Nickel Chloride	D
*Perchlorethylene	C
Plaster of Paris	D
Plating Compounds	B
Polishing Compounds	B
Red Oxide of Iron	A
Salt	A
*Sodium Aluminate	A
Sodium Bisulphate	B
*Sodium Bisulphite	C
Sodium Hypochlorite	A
*Sodium Di Phosphate	B
*Sodium Tri Phosphate	B
*Sodium Mono Phosphate	B
Sodium Nitrite	C

<i>Products</i>	<i>Category</i>
*Sodium Silicate	C
Sodium Sulphate	C
*Sodium Sulphite	C
*Sodium Thiosulphate (Hyposulphite of soda)	C
Soldering Fluxes	C
*Sulphur	C
Sulphur Dichloride	A
Sulphur Monochloride ..	A
Sulphur Dioxide	C
Tinning Fluxes	B
*Titanium Pigments	B
*Trichlorethylene	C
Zinc Carbonate	D
Zinc Cyanide	C

(b) It is the intention of the parties that this Article shall cover all products now or heretofore manufactured by C. I. L. In the interests of convenience such products in some instances have been described broadly by classes, e. g. lacquers, instead of having been enumerated specifically, it being recognized that it is impracticable to make the foregoing list all-inclusive. It is understood that any product not manufactured by C. I. L. at this or any previous time, and not within any class of products listed in Article IV, though it may relate to one of the groups listed above, is not covered initially by this Article but is subject to the provisions of Article V hereof; provided however, that the products marked with an asterisk have been included in the foregoing paragraphs of this Article, notwithstanding the fact that they are not now manufactured by C. I. L.

V. ADDITIONAL PRODUCTS

(a) It is hereby declared to be the spirit of this agreement that the exploitation of the inventions and products of I. C. I. and du Pont within the Dominion of Canada and the Colony of Newfoundland shall be conducted through C. I. L. It is agreed, therefore, subject to the exceptions recognized in paragraph (b) of this Article, that whenever either principal shall decide that it is advisable to exploit in said territory any of its inventions relating to products which are not included in Article IV hereof, it shall so advise each of the other parties hereto, and with the consent of such other parties the products so specified shall thereupon and thereafter be treated as and be deemed to be products listed in the appropriate paragraph of said Article IV.

(b) Notwithstanding the spirit and intent expressed in paragraph (a) of this Article, it is recognized that in exceptional instances the interests of either principal may be served more advantageously by other procedure. It is agreed, therefore, that either I. C. I. or du Pont may exclude from

the operation of this agreement any additional inventions or products the exploitation of which by C. I. L. would be contrary to the best interests of such principal. The exclusions permitted under this paragraph shall be subject to the following restrictions:

(1) No such exclusion shall be made until all the parties hereto shall have been given opportunity fully to discuss the procedure contemplated; provided, however, that notice of pending negotiations with other parties shall be excused if such disclosure would involve breach of confidence reposed by such other parties.

(2) No such exclusion shall be based solely upon the desire of either principal to retain the entire profits (rather than the percentage thereof represented by its stock equity in C. I. L.) to be derived in Canada and Newfoundland from the exploitation of such invention or products; provided, however, that such exclusion may be based on the desire of such principal to manufacture or produce any such product in Canada or Newfoundland, primarily for use or consumption in the manufacturing operations of itself or its subsidiaries.

(3) No such exclusion shall deprive any party of rights to practice specific inventions theretofore conveyed hereunder.

VI. EXCLUDED INVENTIONS

(a) Governmental objection or prohibition shall be a valid plea on the part of any of the parties to decline to reveal or to convey any rights under an invention which, but for such objection or prohibition, would come within the operation of this agreement. It is further understood and agreed that any party may exclude from the operation of this agreement any invention or secret information which in its opinion relates to products designed primarily for the destruction of human life or property in war.

(b) Any party may exclude from the operation of this agreement any rights under new inventions which it may reasonably be impelled to grant to others in settlement of pending or threatened patent litigation or interference proceedings, provided, however, that each party shall first advise the other parties of its intention to make such exclusion.

(c) Any invention of I. C. I. or du Pont which relates incidentally to products classified in Article IV hereof but relates primarily to other products, or which covers the use of said classified products in connection with other products, may in the discretion of the party owning or controlling the invention be excluded from the operation of this agreement or the rights thereunder may be so limited as to exclude the right of C. I. L. to use the same in connection with such other products. It is the intention of the parties that such right of exclusion or limitation shall be exercised by either I. C. I. or du Pont only so far as may be reasonably necessary in the interests of the activities or relationships of such party in industries or products which have been excluded from the operation of this agreement pursuant to the provisions of Article V hereof.

VII. RESERVATION OF RIGHTS

(a) Nothing contained herein shall deny to any grantor the right to sell within the grantee's licence territory any products which do not embody inventions obtained by such grantor from the other parties.

(b) It is further understood that any party may licence its customers to sell any and all products of such party outside its licence territory, insofar as they constitute ingredients or raw materials in the finished goods of such customers, and regardless of whether such products embody inventions obtained from any other party hereto.

VIII. COMPENSATION

(a) The parties recognize that an attempt to evaluate and specifically compensate for the rights granted by each of them under this agreement would serve no useful purpose, in view of the following considerations: the fact that the capital stock of C. I. L. is owned largely by the principals in approximately equal proportions; the reasonable probability that the rights granted to and received from C. I. L. by each of the principals generally will be of substantially equal value; the reasonable probability that the value of the rights received by C. I. L. from the principals will exceed the value of the rights granted by it hereunder; and the fact that any such excess value of the rights granted by the principals will accrue to the principals through their stock interests in C. I. L., without the need of specific compensation therefor. It is agreed, therefore, that no royalties or other monetary compensation shall be paid for rights granted hereunder, except as otherwise provided in paragraphs (b) and (c) of this Article.

(b) Whenever any party desires to acquire rights hereunder for any invention which has been obtained by the grantor thereof from others, such party shall reimburse to the grantor such portion of the consideration paid or payable for said invention as is reasonably attributable or allocable to the rights thereunder for the territory of such party. To facilitate the determination of such compensation, any party hereafter contemplating the purchase of rights to an invention within the territory of any other party, shall notify the latter before the conclusion of negotiations therefor, and shall afford to the latter an opportunity to agree in advance upon the amount or basis of consideration for the rights applicable to its territory, unless such disclosure would involve breach of confidence reposed by the other party to such negotiations.

(c) Whenever any party desires to acquire rights hereunder for any invention owned or controlled by a subsidiary company in which one or the other parties owns less than all of the outstanding common stock, it shall be obligated to pay a fair and adequate compensation for such rights; and the parent of such subsidiary shall refund immediately to said party such percentage of said payment as the amount of common stock of the

subsidiary held by the parent bears to the total outstanding common stock of the subsidiary.

IX. AID IN OBTAINING RIGHTS

Each of the parties agrees that in acquiring rights to any invention it will endeavor, if practicable, to obtain rights thereunder which may be extended to the other parties in accordance with the terms hereof; and agrees that if it acquires rights to an invention which are so limited as not to permit of such extension, it will use its best efforts to assist such other party or parties to obtain rights to such invention. No party shall be obligated, however, to purchase at additional cost any right for the benefit of another party hereto, unless the amount or basis of consideration therefor shall have been agreed upon in accordance with paragraph (b) of Article VIII hereof.

X. DISCLOSURE OF INFORMATION

(a) Each of the parties hereto, as soon as practicable and in any case within six months after the commercial utilization of any invention for which any other party may be entitled to rights hereunder, shall disclose to such other party information in respect thereto, sufficient to enable such other party to determine whether it desires to utilize the same.

(b) Each of the parties, at the request and expense of such other party, shall supply experienced chemists, engineers, foremen, and other experts to assist such other party in investigating, testing, applying, or using any invention disclosed as aforesaid; provided, however, that the party called upon for such technical assistance may arrange to furnish same at such time and in such manner as will not materially impede or interfere with its own activities and operations.

(c) Notwithstanding that the disclosure of information to C. I. L. is hereinbefore limited to inventions relating to products and industries included in Article IV hereof and to those additional inventions and products hereafter made available to C. I. L. in accordance with the provisions of Article V hereof, it is hereby declared to be the intention of I. C. I. and du Pont to disclose also to C. I. L. information on inventions relating to other products or industries which come within the scope of C. I. L.'s activities; it being understood, however, that no such disclosures shall convey to C. I. L. the right to practice such inventions.

XI. PATENT PROTECTION

(a) Each of the parties hereto, as soon as practicable and in any case within six months from the date of the filing of application for letters patent covering any invention for which either or both of the other parties may be entitled to rights hereunder, shall disclose to such other party or parties information sufficient to enable it or them to determine whether it is desirable and practicable to secure patent protection therefor in any country or countries in which it or they may be entitled to practice said

invention. The party owning the invention shall at the request of the other party or parties, and may in the absence of such request, cause application or applications for letters patent thereon to be filed in any country or countries in which such other party or parties may be entitled to practice the same.

(b) Neither the grantor nor any grantee of the rights to any invention hereunder shall be bound to defend any letters patent covering the same, but each party agrees, at the request and expense of the other, to assist to the fullest extent in defending or protecting any such letters patent.

(c) Each party shall pay all fees and expenses (not including expenses of litigation) for filing, securing and maintaining any patent application or letters patent which it may elect to acquire or retain, in any country in which it has been granted the exclusive right to practice the invention covered thereby; and I. C. I. and du Pont shall pay, in such proportions as they shall mutually determine, all such fees and expenses in any country in which both have been granted rights to the invention so covered.

XII. IMPAIRMENT OF RIGHTS

Each of the parties agrees not to make or consent to any disclosure or to do or consent to any other act that may impair or depreciate the value of any right granted to it under this agreement, or that may impair or depreciate the value of the right, title, and interest retained by any other party in any invention covered hereby. Each party agrees to take all reasonable care to prevent any such disclosure or act, but shall not, in the absence of bad faith or gross negligence, be liable in damages therefor.

XIII. EXISTING AGREEMENTS

It is hereby recognized that the provisions of this agreement are subordinate and subject to all existing agreements wherever it may conflict therewith. Each of the parties agrees, however, that in negotiating for the renewal of any of such agreements which may expire during the existence of this agreement, it shall endeavor to effect such renewals on such basis or terms as will harmonize as fully as possible with the provisions of this agreement.

XIV. PARTIES IN INTEREST

(a) The terms and provisions of this agreement shall apply to the respective subsidiary companies of each of the parties hereto, and each of said parties undertakes and assumes, for and on behalf of its subsidiary companies, all of the duties and obligations of this agreement. To this end each of the parties shall endeavor to obtain promptly from each subsidiary company in which it now or hereafter owns less than all of the outstanding stock, a consent to be bound by the provisions of this agreement.

(b) The benefits and obligations of this agreement shall inure to and be binding upon the parties hereto and their respective legal representatives and successors, and shall not be assigned, transferred or licensed to

any party without the consent in writing first obtained from the other parties, except that any party may, with the consent in writing of the original grantor, license within its territory the rights conveyed hereunder with respect to specific inventions; provided, however, that any rights granted or conveyed hereunder with respect to specific inventions may be assigned or licensed by the grantee to any party with whom it now (and also at the time of such assignment or license) has a reciprocal agreement which permits the original grantor of such rights to receive, in accordance with the provisions hereof, rights to the inventions of such third party relating to the same industry or product.

XV. DURATION

This agreement shall continue in effect until December 31, 1940. Upon the termination of this agreement the parties hereto shall continue to have and possess the perpetual right to practice any and all inventions acquired hereunder and to make, use, and sell any and all products embodying such inventions, within their respective territories.

XVI. CANCELLATION OF EXISTING AGREEMENTS

The aforesaid agreements between the parties hereto, dated January 1, 1925, and January 1, 1926, all amendments and additions thereto and all interpretations thereof and understandings in relation thereto, are hereby cancelled and terminated; but the rights heretofore granted thereunder with respect to products classified by the grantor under Article IV hereof shall continue to the same effect as though granted pursuant to and in accordance with this agreement.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed in triplicate by their officers thereunto duly authorized, and their common or corporate seals to be hereunto affixed, as of the day and year first above written.

IMPERIAL CHEMICAL INDUSTRIES, LTD.,
By _____,
Director.

Attest:
_____,
Secretary.

E. I. DU PONT DE NEMOURS & COMPANY,
By _____,
President.

Attest:
_____,
Secretary.

CANADIAN INDUSTRIES LIMITED,
By _____,
President.

Attest:
_____,
Secretary.

Source: Bone Committee, *Patent Hearings*, Part 5, pp. 2293 ff.

Note: The prolongation of this agreement with pertinent changes is contained in *ibid.*, pp. 2301 ff.

APPENDIX VIII H

HYDROGENATION PATENTS AGREEMENTS

HYDROGENATION AGREEMENT BETWEEN INTERNATIONAL COMPANY AND BATAAFSCHE PETROLEUM MAATSCHAPPIJ

AGREEMENT dated 16th February 1931, between INTERNATIONAL Co., a company of the Principality of Liechtenstein, having its seat at Vaduz (hereinafter referred to as VADUZ, and N. V. DE BATAAFSCHE PETROLEUM MAATSCHAPPIJ, a company of The Netherlands, having its seat at 's Gravenhage, Holland hereinafter referred to as BATAAFSCHE).

In consideration of the mutual agreements herein contained, it is agreed between the parties hereto as follows:

ARTICLE I

Wherever used in this contract the following terms shall have the following meanings, respectively; *provided always* that none of said meanings shall bind the parties hereto in any respect save in respect of the relations and operations of the parties pursuant to this contract:

(a) "ROYAL DUTCH SHELL Group" shall mean N. V. Koninklijke Nederlandsche Maatschappij tot Exploitatie van Petroleumbronnen in Nederlandsch-Indië of 's Gravenhage, Holland, a company of The Netherlands, hereinafter referred to as ROYAL DUTCH, and The "Shell" Transport and Trading Company, Limited, of London, England, a British company, hereinafter referred to as SHELL, and the subsidiaries and holding companies of either or both of them.

(b) "VADUZ group" shall mean Standard Oil Company, a corporation of the State of New Jersey, United States of America, and its subsidiaries and holding companies.

(c) "American Companies" shall mean all companies organized under either the laws of the United States of America or the laws of any state thereof, and their respective subsidiaries, wherever organized, including all members of the VADUZ group, wherever organized, but excluding (1) all members of the ROYAL DUTCH-SHELL group, wherever organized, and (2) companies owned or controlled, directly or indirectly, by the Union of Socialist Soviet Republics, wherever organized.

(d) "Non-American Companies" shall mean all companies not coming within the above definition of American Companies, including all members of the ROYAL DUTCH-SHELL group, wherever organized,

but excluding (1) companies owned or controlled, directly or indirectly, by the Union of Socialist Soviet Republics, wherever organized, and (2) Anglo-Persian Oil Company, Ltd., a British company, and its subsidiaries, wherever organized.

(e) "*Companies*" shall mean individuals, partnerships, firms, companies, associations, corporations, and all other business units.

(f) "*Subsidiaries*" shall mean every company, no matter in what country organized, in which the company of which it shall be a "subsidiary" directly or indirectly, shall have, at the time in question, the power to exercise control, either by ownership or control of a majority of the stock having the right to vote for the election of directors or by management agreement.

(g) "*Wholly controlled subsidiaries*" shall mean every subsidiary of which, at the time in question, the company of which it shall be a "wholly controlled subsidiary" shall be in effect the sole owner.

(h) "*Holding companies*" shall mean every company, no matter in what country organized, which shall be, at the time in question, in effect the sole owner of the company of which it shall be a "holding company" and the subsidiaries of such holding company.

(i) "*United States*" shall mean all territory to which United States of America patents extended on the 15th of June 1930.

(j) "*Germany*" shall mean all territory to which German Republic patents extended on the 9th of November 1929.

(k) "*Patent rights relating to the Hydrogenation Process*" shall mean any patents, renewals, reissues, extensions of patents, and transferable interests in any of the foregoing relating to the Hydrogenation Process as hereinafter defined, of which the Company in question may now or hereafter have the ownership or control in the sense of having the power to dispose of them or grant licenses thereunder, and shall include both:

(1) Those patent rights which relate wholly or principally to the Hydrogenation Process, and

(2) Those which are useful in the Hydrogenation Process and are also useful to a substantial degree in other processes,

but in the latter case only insofar as they are useful in the Hydrogenation Process.

(l) "*Hydrogenation Process*" shall mean any process coming within the Hydrogenation Field (as hereinafter described) which is carried out by or in the presence of added hydrogen or hydrogen carriers, with or without catalysts, to a degree or extent or in a manner to secure definitely determinable hydrogenation or which is used in conjunction with the hydrogenation step for the preparation of raw materials for hydrogenation, including hydrogen, or for such immediate separation and special or limited refining of the products produced directly by

the hydrogenation step itself as may be required to fit such products for handling by regular refinery procedure.

(m) "*Hydrocarbon Field*" shall mean:

The treatment of crude petroleum, natural or manufactured bitumens (solid or liquid), peats, shales, lignites, coals, other solid and liquid carbonaceous materials, and/or solid and liquid products made therefrom or contained therein to produce:

1. Those marketable major products which are now commonly produced in the oil industry. The marketable major products here referred to are, for the purposes of this agreement, the following:

- (1) Crude Petroleum.
- (2) Intermediate hydrocarbon mixtures forming the class known as Naphthas.
- (3) Gasoline.
- (4) Kerosene.
- (5) Gas Oil.
- (6) Fuel Oil.
- (7) Lubricating Oil.
- (8) Paraffine Wax.
- (9) Highly purified viscous involatile hydrocarbon oils.
- (10) Saturants, binders, and road oils.
- (11) Roofing and paving asphalts.
- (12) Petroleum greases and Petrolatum.
- (13) Sulphuric acid hydrocarbon sludges.
- (14) Petroleum coke.

2. Those marketable major products which shall hereafter be commonly produced in the oil industry and shall be of a commercial importance corresponding to the present commercial importance of a present major product as listed in subparagraph 1.

3. Other products which, though different in chemical structure from said major products of subparagraphs 1 and 2, have the same properties to a degree which permits their use for the same purpose or purposes but to produce said other products only to the extent that they are used for such purpose or purposes.

(Example: Accordingly processes for the production of aromatic hydrocarbons come within the field so far as the products are used as antiknock substances or as motor fuel. They do not come within the field when intended for use as raw materials for dyestuffs and explosives.

(n) The "*As Is Position*" of a company shall refer to the petroleum products, including substitutes such as benzol and excluding specialties (including candles), and shall mean a volume of each prod-

uct which shall bear the same proportion to the total volume of consumption of such product in the country in question during the last full year preceding the time in question as to the volume of such product put into consumption in such country and supplied by such company either by imports into such country or by local production within that country bore to the total consumption of such product in such country during the qualifying period.

The "*As Is Position*" is separate and independent for each product for each country.

The named qualifying period is the year 1928, except for lubricating oils as to which it is July 1, 1928, to June 30, 1929.

(o) The "*As Is Supply Position*" of a company shall refer to the petroleum products, including substitutes such as benzol and excluding specialties (including candles), and shall mean the percentage supplied by such company of a given distributor's total requirements of a given product in a given country during the named qualifying period.

The "*As Is Supply Position*" is separate and independent for each product for each distributor for each country.

The named qualifying period is the year 1928, except for lubricating oils as to which it is July 1, 1928, to June 30, 1929.

In all defined terms herein the singular shall include the plural, and vice versa.

ARTICLE II

VADUZ shall cause to be organized under the laws of the Principality of Liechtenstein, an incorporated patent holding and licensing company to be known as INTERNATIONAL HYDROGENATION PATENTS COMPANY, or similar name if said name be not available, hereinafter referred to as I. H. P. The capital of I. H. P. shall be 50,000 Swiss francs. Other corporate details of I. H. P. shall be agreed upon by the parties hereto in such manner as to permit the carrying out of this contract as a whole. I. H. P. shall be empowered to do all things necessary to carry out the spirit and purposes of this contract, but it shall not be empowered to engage in and it shall not engage in manufacturing or refining operations. Provision shall be made so that representation on the board of directors of I. H. P. shall at all times be directly proportional to the voting stock held by each of the parties hereto, and so that I. H. P. shall not be bound in any manner on account of any action of any sort which appears to have been taken on its behalf unless such action shall have been authorized in writing by two of its directors, or their respective alternates, one of such directors and his alternate being always the nominee of BATAAFSCHE and the other director and his alternate being always the nominee of VADUZ.

ARTICLE III

(A) VADUZ represents and warrants that Standard Oil Company, a corporation of the State of New Jersey, United States of America, hereinafter referred to as Standard Oil, owns substantially all of the capital stock of VADUZ, and a majority of the capital stock of Standard-I. G. Company, a corporation of the State of Delaware, United States of America, hereinafter referred to as S. I. G.

(B) Promptly after the organization of I. H. P. as hereinabove in Article II hereof provided, but as a condition precedent to the obligations of either of the parties under the succeeding Articles of this contract, the following agreements shall be executed and delivered simultaneously by the designated parties thereto, VADUZ and BATAAFSCHE agreeing to execute and deliver the agreements to which they are designated as parties, and VADUZ agreeing to cause S. I. G. and I. H. P. to execute and deliver the agreements to which they are respectively designated as parties, and to cause Imperial Oil, Limited, a company of the Dominion of Canada, to execute and deliver the guarantee designated to be executed and delivered by it:

1. An agreement between S. I. G. and I. H. P. providing among other things for the assignment by S. I. G. to I. H. P. of certain patent rights relating to the Hydrogenation Process, such agreement to be known as Contract "B" and to be substantially in the form of Exhibit B hereto (together with an Annex B as therein provided for and an Annex C, to be substantially in the form of Exhibit C hereto);

2. An agreement between VADUZ and I. H. P. providing among other things for the transfer to I. H. P. of the stock or other interest in Internationale Bergin Compagnie voor Olie-en Kolen-Chemie's Gravenhage, a company of The Netherlands, hereinafter referred to as I. B. C., directly or indirectly owned or controlled by the VADUZ group and for payments to be made by I. H. P. to VADUZ, such agreement to be known as Contract "D," and to be substantially in the form of Exhibit D hereto;

3. An agreement between BATAAFSCHE and I. H. P. providing among other things for the assignment to I. H. P. of certain patent rights of ROYAL DUTCH and SHELL and the wholly controlled subsidiaries of either or both of them relating to the Hydrogenation Process, such agreement to be known as Contract "E" and to be substantially in the form of Exhibit E hereto;

4. An agreement between S.-I.-G. and BATAAFSCHE providing among other things for the grant to members of the ROYAL DUTCH-SHELL group operating in the United States of licenses under the United States patent rights of S.-I. G. relating to the Hydrogenation Process, such agreement to be known as Contract "F" and to be substantially in the form of Exhibit F hereto;

5. An agreement between I. H. P. and BATAAFSCHE providing among other things for payment by I. H. P. for account of BATAAFSCHE to VADUZ

of \$3,000,000 and interest but only out of the net surplus of I. H. P., in part consideration of the delivery by VADUZ to BATAAFSCHE of stock in I. H. P. as hereinafter in Article IV hereof provided, such agreement to be known as Contract "G" and to be substantially in the form of Exhibit G hereto;

6. A guarantee by Imperial Oil, Limited, guaranteeing, among other things, performance by VADUZ of this contract and by S.-I. G. of Contract "B," such guarantee to be substantially in the form of Exhibit H hereto (together with Annex A and Annex B thereto, to be in substantially the form of this contract and Exhibit B hereto, respectively);

(C) None of the foregoing agreements shall be terminated or modified, except in the manner therein provided, in any way without the consent of both VADUZ and BATAAFSCHE.

ARTICLE IV

VADUZ will sell to BATAAFSCHE, and BATAAFSCHE will purchase from VADUZ, one-half of the capital stock of I. H. P., for an aggregate purchase price of Ten and one-half million dollars (\$10,500,000), and certain interest, United States currency, Three million dollars (\$3,000,000) and interest to be payable in the manner and subject to the contingency provided in Contract "G" and Seven million five hundred thousand dollars (\$7,500,000) and interest to be payable as hereinafter in this Article provided. Delivery of the shares of said stock shall be made against payment by BATAAFSCHE of Seven and one-half million dollars (\$7,500,000), plus simple interest thereon at the rate of four percent (4%) per annum from and after the 15th of June 1930 to the date of payment.

ARTICLE V

VADUZ and BATAAFSCHE will cause I. H. P. to conduct its licensing under its patent rights, and so far as practicable under the patent rights of I. B. C., relating to the Hydrogenation Process, as follows:

(a) I. H. P. shall upon request of BATAAFSCHE or VADUZ, respectively, grant specific licenses for any country for the term of this contract to any member of the ROYAL DUTCH-SHELL group and to any member of the VADUZ group, for their respective operations, upon uniform reasonable terms and at the royalty rate fixed in Exhibit A hereto and made a part hereof, provided that licenses for the liquefaction of coal shall be subject to the limitations of paragraph (d) of this Article V. Said royalties shall be payable by members of the VADUZ group and the ROYAL DUTCH-SHELL group for and on account of operations up to and including the 31st of December 1947, but not thereafter. Up to the termination of this contract under Article XIX hereof, but not thereafter, separate licenses, each limited to a fixed capacity, shall be required for each installation which any such member desires to make, all licenses being subject to the condition that the

licensed plant shall be begun and completed with reasonable diligence. Each license when granted shall be effective in perpetuity except for a breach of a material covenant of the license itself. Upon termination of this contract as provided in Article XIX hereof, I. H. P. shall grant to VADUZ and BATAAFSCHE perpetual royalty-free licences under its then existing and future patent rights relating to the Hydrogenation Process, for unlimited capacity, with the power to grant licenses to each member of their respective groups as then or thereafter constituted.

(b) I. H. P. shall upon request of BATAAFSCHE or VADUZ grant specific licenses to any company, other than members of the ROYAL DUTCH-SHELL group and of the VADUZ group, for its operations, upon reasonable terms and at the royalty rate fixed in Exhibit A hereto, provided that licenses for the liquefaction of coal shall be subject to the limitations of paragraphs (d) and (f) of this Article V, and provided further that no licenses for the hydrogenation of oil need be granted upon the request of one party where the effect of the grant of such license will be to impair the *As Is Supply Position* of any member of the group of the other party. Separate licenses, each limited to a fixed capacity, shall be required for each installation which any such company desires to make, all licenses being subject to the condition that the licensed plant shall be begun and completed with reasonable diligence.

(c) The *As Is Position* of the VADUZ group referred to in this Article V shall include for each country all *As Is Positions* of all American Companies. The *As Is Position* of the ROYAL DUTCH-SHELL group for each country referred to in this Article V shall include for each country all *As Is Positions* of all Non-American Companies.

(d) Each party may, if it elects to do so, require the grant of a license for the liquefaction of coal by the Hydrogenation Process not only to the members of its group but also to any other company as to which it has the *As Is Position* under the foregoing, and I. H. P. will include in such license such conditions as shall be specified, in the case of an American Company, by VADUZ, and in the case of a Non-American Company, by BATAAFSCHE, always provided that the license itself shall be at the regular royalty rate specified in Exhibit A hereto (unless in any specific case both VADUZ and BATAAFSCHE consent to a different royalty rate) and that neither party may, without the consent of the other, require such licenses for a member of its group or for a company within the *As Is Position* of its group, if the capacity for which such licenses are requested added to the total capacity for which all licenses for the liquefaction of coal were previously granted to such members and such companies shall give a coal liquefaction capacity in excess of the *As Is Position* of the group in question in the country in question.

Whenever referred to in this paragraph (d) the *As Is Position* of any distributing company or association of distributing companies, and its or their subsidiaries, shall, if acquired by another, be added as and when acquired to the *As Is Position* of the distributing company or association of distributing companies, and its or their subsidiaries, so acquiring it; provided, however, that no acquired *As Is Position* may be so added unless provision shall have been made for preventing the supplies thus displaced from disturbing that market.

(e) In cases in which I. H. P. requires of licensees agreements for the supply of products to or for the delivery of products by the licensee, I. H. P. shall assign to the companies respectively designated for the purpose by VADUZ or BATAAFSCHE, the agreement to make such supply or to receive such delivery, pro rata according to the groups, respective *As Is Positions* in the country in question, and such designated companies shall accept such assignment.

(f) Unless VADUZ and BATAAFSCHE shall otherwise consent at the time, no license shall be granted for the liquefaction of coal save to those included within the *As Is Position* of the VADUZ group or of the ROYAL DUTCH-SHELL group, except upon the condition that the products made under the license shall be delivered to I. H. P. or its nominees for distribution, and I. H. P. shall assign to the companies respectively designated by VADUZ and BATAAFSCHE, the right to receive such products for distribution, pro rata according to the respective *As Is Positions* of the VADUZ group and of the ROYAL DUTCH-SHELL group in the country in question, and such designated companies shall accept such assignment. The designated companies shall be free to distribute such products in any market they may desire. It shall be assumed, however, for accounting purposes that such distribution was conducted by the respective companies through their distributing organizations in the country in question at cost in the country in question plus a commission sufficient only to show a net return (after depreciation) of 7% per annum on the then fair value of the marketing investment used in such distribution. The parties will share the profit lying between the price at which such producers deliver (as fixed by the license contract) and the price returned by the designated company (after deducting the cost plus 7% determined as provided in the preceding sentence) in proportion to the *As Is Positions* of the groups in the country in question.

(g) For the purposes of this Article V, the Anglo-Persian Oil Company, a British company, and its subsidiaries, hereinafter together referred to as Anglo-Persian, have a separate and distinct *As Is Position* vis-a-vis the American Companies and the Non-American Companies, and neither party may include the *As Is Position* of Anglo-Persian in the *As Is Position* of the American Companies or the Non-American Companies. However, Anglo-Persian shall be of-

ferred participation under the provisions of Article VI in countries in which it has an *As Is Position*.

(i) I. H. P. will require each of its licensees to grant to I. H. P. the right to grant nonexclusive licenses under the patent rights of such licensee relating to the Hydrogenation Process in every country of the world, and, to the extent that such licensee does not itself utilize its right to take out patents on its inventions relating to the Hydrogenation Process, to grant to I. H. P. the right to apply and/or to assign the right to apply, in every country of the world, for patent rights in respect of such inventions, and to extend from time to time to I. H. P. or its agent all technical experience, knowledge, and information of such licensee relating to the Hydrogenation Process.

ARTICLE VI

VADUZ and BATAAFSCHE will cause I. H. P. to conduct its licensing under its patent rights relating to the Hydrogenation Process, and so far as practicable under the patent rights of I. B. C. relating to the Hydrogenation Process, in all countries in which there are substantial oil interests other than of the ROYAL DUTCH-SHELL group and the VADUZ group, along the following general lines:

1. I. H. P. shall organize in each country, or group of countries in which similar conditions exist, a patent licensing company which shall be bound by all the provisions of Article V hereof and to which all licensing rights under the patent rights of I. H. P. relating to the Hydrogenation Process for the country or countries in question shall be granted. Such company, however, shall have no right to use the Hydrogenation Process but only to license others to do so.

2. VADUZ and BATAAFSCHE will cause I. H. P. to offer stock participation in such company to each substantial oil company operating in such country in proportion to the relative positions of such companies in the oil industry in the country in question, and each stockholder company shall be expected to become and shall have the right to become a licensee under the patent rights of the licensing company relating to the Hydrogenation Process.

3. Provision shall be made so that where local conditions shall require the recognition of any local coal and/or chemical company, it shall cause the licensing company to offer stock participation to such coal and/or chemical company on such basis as will protect the interests of its other stockholders.

ARTICLE VII

In the event that it shall appear as the result of tests and study now under way that BATAAFSCHE had as of the 15th of April 1930, inventions, patents, or experience (including all applications for patents filed on or before the 6th of May 1930) which may reasonably be expected definitely and to an ascertainable degree to increase the earning power of the

Hydrogenation Process, then VADUZ, after comparing such contribution by BATAAFSCHE to the Hydrogenation Process with the contribution made by the inventions, patents, and experience had by S. I. G., as of said date, and after due discussion with BATAAFSCHE, will make such reduction in the royalty provided to be paid under Article VI of Contract "D" as to VADUZ seems equitable, it being understood that no such reduction will be made solely because of the fact that BATAAFSCHE has incurred expense and acquired experience in the study of hydrogenation or taken out minor patents which may have some theoretical value only, and that it remains with VADUZ to determine in good faith what reduction, if any, shall be made.

ARTICLE VIII

VADUZ and BATAAFSCHE will provide I. H. P. from time to time with all necessary working capital, through loans to be made by the parties on the same terms and in equal amounts; *provided, however*, that, up to the 31st of December 1947 all loans to provide funds for the purchase of patent rights shall be made in the proportion of 62½% by VADUZ and 37½% by BATAAFSCHE, subject to an appropriate reduction of VADUZ' proportion and to corresponding increase in BATAAFSCHE's proportion in such a manner that the difference between them shall equal the percentage finally determined, under the provisions of Article VII herof, to be paid by VADUZ under Article VI of Contract "D."

ARTICLE IX

VADUZ and BATAAFSCHE will cause the directors of I. H. P. to follow the policy of writing off the cost of all patent rights acquired from time to time by I. H. P., in the year in which acquired or as soon thereafter as earnings shall be available for the purpose.

ARTICLE X

VADUZ and BATAAFSCHE will cause I. H. P. to organize a company with powers and purposes in the world outside of the United States and Germany similar to the powers and purposes in the United States of Hydro Engineering and Chemical Company, a corporation of the State of Delaware, United States of America, hereinafter referred to as American Engineering. Such new company shall be known as International Hydrogenation Engineering and Chemical Company or similar name if such name be not available, hereinafter referred to as *International Engineering*. Stock interests in International Engineering shall be offered to licensees of I. H. P. on the principle that each such licensee may obtain approximately 45% of the net profits resulting from its payments to said company. Control of the voting stock of International Engineering shall remain in I. H. P. All licensees of I. H. P. and of the companies to be organized as provided in Article VI hereof shall be required to enter into contracts with International Engineering along the lines of Contract "E" of Annex A to Exhibit F hereto. International Engineering will enter into a con-

tract with American Engineering in substantially the form of Exhibit C hereto.

ARTICLE XI

VADUZ and BATAAFSCHE will in good faith continue negotiations with Imperial Chemical Industries, Ltd., a British company, hereinafter referred to as I. C. I., with a view to VADUZ entering into an agreement with I. C. I. providing among other things for the transfer to I. H. P. of the control of the stock or other interest in I. B. C. directly or indirectly owned or controlled by I. C. I., such agreement to be known as the "I. C. I. Memo" and to be as nearly as may be in the form of Contract "I" annexed hereto as Exhibit I. In the event that such negotiations, with I. C. I. result in a contract, VADUZ will assign such contract to I. H. P. I. H. P. shall thereafter be required to hold and administer for the account and sole benefit of VADUZ the right to be obtained by I. H. P. thereunder to license under the I. C. I. United States patent rights relating to the Hydrogenation Process, and to assign such right to VADUZ or its nominee on request. VADUZ shall pay to I. H. P. currently that proportion of the payment made by I. H. P. and/or International Engineering to I. C. I. each year under Section 2 of Article XI of a certain agreement between I. C. I. and I. H. P. dated April 10, 1931, and known as "Commercial Agreement" (on account of the net royalties and profits derived from engineering fees received by them or either of them from others than I. C. I. because of the liquefaction of coal under the patent rights of I. H. P. which relate to the Hydrogenation Process), which the total collection of royalties and fees for engineering services relating to the liquefaction of coal by the Hydrogenation Process accepted in lieu of royalties by S. I. G. on account of liquefaction of coal under license under the United States patents of S. I. G. relating to the Hydrogenation Process bears to the total collection of royalties and fees for engineering services relating to the liquefaction of coal by the Hydrogenation Process accepted in lieu of royalties, from others than I. C. I., on account of liquefaction of coal under license from I. H. P. for the world outside of Germany and the United States and from S. I. G. for the United States, together. VADUZ agrees to cause S. I. G. to inform I. H. P. within sixty days after the end of each calendar year of all royalties and fees for engineering services relating to the liquefaction of coal by the Hydrogenation Process accepted in lieu of royalties received by S. I. G. during that calendar year from each licensee in the United States on account of the liquefaction of coal.

Signed on 20-2-1932.

INTERNATIONAL CO.

R. FEIX.

DR. J. MERCIER.

N. V. DE B. P. M.

J. E. F. DE KOK.

H. JACOBSON.

ARTICLE XII

I. H. P. shall manage the business of I. B. C. as an incident to its own business. In view of the circumstance that I. G. Farbenindustrie Aktiengesellschaft, a German company, hereinafter referred to as I. G., receives a return from I. H. P. licensees and does not receive any return from I. B. C. licensees, it is agreed that if I. H. P. causes I. B. C. to enter with I. H. P. into joint license contracts under which contracts the 20% clause of Article IX of Contract "B" becomes effective, the percentage of the total royalty allotted to I. B. C. under the joint license contract shall not be unfairly large.

ARTICLE XIII

Nothing contained in this contract shall have any reference to or shall affect the domestic or foreign commerce of the United States of America, the provisions above relating solely to commerce of the world outside of the United States of America, and not including in any way any exports or imports of the United States of America, including all territories, possessions, and dependencies of the United States of America at any time.

ARTICLE XIV

This contract is personal in its nature and neither VADUZ nor BATAAFSCHE may, without the consent of the other, assign, pledge, or transfer its stock in I. H. P., or assign or transfer its rights or obligations hereunder to a third party, save to the successor to substantially the whole of its business, but either party may sell, assign, transfer, or otherwise dispose of its rights to receive dividends on its I. H. P. stock.

ARTICLE XV

Nothing contained in this contract, or in any of the contracts herein provided for, shall constitute a partnership relation between VADUZ and BATAAFSCHE, or between the VADUZ group or any member thereof and the ROYAL DUTCH-SHELL group or any member thereof, or between any of them and I. H. P., I. B. C., I. C. I., or I. G.

ARTICLE XVI

Each of the parties hereto will upon reasonable request by the other party execute and deliver, or cause to be executed and delivered, such further documents as may be necessary fully to evidence or carry out the obligations respectively agreed to be performed hereunder.

ARTICLE XVII

1. This contract shall be construed and the legal relations between the parties determined in accordance with the laws of England.
2. In case any question, dispute, or difference shall arise between the parties, with respect to this contract or the validity or interpretation thereof or anything arising out of this contract, the same shall be referred to two arbitrators, one to be appointed by each of the parties, and in every such

case in the event of the arbitrators failing to agree, the same question, dispute, or difference shall be determined by an umpire to be appointed by the arbitrators, and if the arbitrators shall fail to agree upon an umpire, such umpire may be appointed at the request of any party to the arbitration in question, by the President for the time being of the Law Society in London. The umpire shall be appointed before the arbitrators enter upon a consideration of the question, dispute, or difference. Any arbitration under the provisions of this clause shall be an arbitration in accordance with the Arbitration Act of 1889 of England or any statutory modification thereof for the time being in force. The expense of such arbitration shall be borne by the parties involved in the arbitration in such proportion as shall be determined by the arbitrators or umpire.

ARTICLE XVIII

Notices shall be deemed to have been sufficiently given hereunder if mailed in a postage-prepaid envelope addressed, if to VADUZ, to International Company, Vaduz, Liechtenstein, and if to BATAAFSCHE to N. V. de Bataafsche Petroleum Maatschappij, 30 Carel van Bylandtlaan, 's Gravenhage, Holland.

ARTICLE XIX

This contract shall remain in force until terminated by two years' written notice served by either party upon the other at any time after the 31st of December 1945.

INTERNATIONAL CO.,
By FR. BREME,
R. FEIX,
Directors.

N. V. DE BATAAFSCHE PETROLEUM MAATSCHAPPIJ,
By J. E. F. DE KOK,
H. JACOBSON,

COMMERCIAL AGREEMENT dated 10th of April 1931 between IMPERIAL CHEMICAL INDUSTRIES, LIMITED, a British company, hereinafter referred to as I. C. I., and INTERNATIONAL HYDROGENATION PATENTS COMPANY, LIMITED, a company of the Principality of Liechtenstein, having its seat at Vaduz, hereinafter referred to as I. H. P.

WHEREAS I. C. I. has the right to use certain patent rights bearing upon the liquefaction of coal by the Hydrogenation Process; and

WHEREAS I. H. P. can supply or cause to be supplied in countries of the world, outside of the United States of America and Germany, the technical services, experience, knowledge, and information relating to the Hydrogenation Process of I. G. Farbenindustrie Aktiengesellschaft, a German company, hereinafter referred to as I. G., Standard Oil Company, a corporation of the State of New Jersey, United States of America,

hereinafter referred to as Standard Oil Company, N. V. Koninklijke Nederlandsche Maatschappij tot Exploitatie van Petroleumbronnen in Nederlandsch-Indie, a company of The Netherlands, hereinafter referred to as ROYAL DUTCH, The "Shell" Transport and Trading Company, Limited, of London, England, a British company, hereinafter referred to as "SHELL"; and

WHEREAS I. C. I. plans to produce by the Hydrogenation Process some of the marketable products now commonly produced in the oil industry; and

WHEREAS I. C. I. and I. H. P. are desirous of cooperating with each other; and

WHEREAS a basis of cooperation has been agreed upon and is to include the marketing by I. H. P. through various Oil Companies of the products of I. C. I. produced by the Hydrogenation Process, and *inter alia* the exchange of technical information and assistance;

In consideration of the mutual agreements hereinafter contained, it is agreed between the parties hereto as follows:

ARTICLE I

The parties to this Agreement are I. H. P. and I. C. I.

ARTICLE II

(A) Wherever the term "*Hydrogenation Process*" is used in this Agreement, its meaning is:

Any process coming within the Hydrocarbon Field as hereinafter described which is carried out by or in the presence of added hydrogen or hydrogen carriers, with or without catalysts, to a degree or extent or in a manner to secure definitely determinable hydrogenation, or which is used in conjunction with the hydrogenation step for the preparation of raw materials for hydrogenation, including hydrogen, or for such immediate separation and special or limited refining of the products produced directly by the hydrogenation step itself as may be required to fit such products for handling by regular refinery procedure.

The term "*Hydrocarbon Field*" as used in the preceding paragraph means:

The treatment of crude petroleum, natural or manufactured bitumens (solid or liquid), peats, shales, lignites, coals, other solid and liquid carbonaceous materials, and/or solid and liquid products made therefrom, or contained therein, to produce those marketable products which are now commonly produced in the oil industry.

The marketable products here referred to are for the purposes of this agreement, the following:

1. Crude petroleum.
2. Intermediate hydrocarbon mixtures forming the class known as Naphthas.
3. Gasoline.
4. Kerosene.
5. Gas Oil.
6. Fuel Oil.
7. Lubricating Oil.
8. Paraffine Wax.
9. Highly purified, viscous, involatile, hydrocarbon oils.
10. Saturants, binders, and road oils.
11. Roofing and paving asphalts.
12. Petroleum greases and Petrolatum.
13. Sulphuric acid hydrocarbon sludges.
14. Petroleum coke.

Hydrogenation processes for the production of any liquid hydrocarbons come within the field so far as these products are used as, or as constituents of, antiknock substances or marketable products of the oil industry as hereinbefore defined. They do not come within the field when intended for other use, as for example raw materials for dyestuffs and explosives.

(B) Wherever the term "*barrel*" is used in this agreement, its meaning is:

Forty-two (42) United States standard gallons of 231 cubic inches each, measured at 60° (sixty degrees) Fahrenheit.

(C) Wherever the term "*coal*" is used in this agreement, its meaning is:

All solid carbonaceous material not including shales.

(D) Wherever the term "*oil charged to the Hydrogenation Process*" is used in this agreement, its meaning is:

All liquid materials submitted to treatment by the Hydrogenation Process, regardless of origin or of the products produced therefrom, except such materials as may be currently returned, i. e., recycled, in whole or in part, to the hydrogenation apparatus after having been treated therein and without having left the site of the hydrogenation plant or having been subjected to processes other than physical separation and the Hydrogenation Process itself.

In any works of I. C. I. in which all oil products produced are derived from the Hydrogenation Process, the hydrogenation plant site shall include all oil-handling equipment at the said works and in such cases physical separation shall include any process in which the resultant product retains its definite identity.

(E) Wherever the term "*liquefied coal*" is used in this agreement, its meaning is:

All crude liquid products (paraffine included, gases and unconverted carbon and ash excluded) obtained by the hydrogenation of coal, i. e., all solid material.

(F) Wherever the term "ROYAL DUTCH-SHELL" is used in this agreement, its meaning is:

ROYAL DUTCH and SHELL, and the subsidiaries and holding companies of either or both of them.

(G) Wherever the term "STANDARD" is used in this agreement, its meaning is:

Standard Oil Company and its subsidiaries and holding companies.

(H) Wherever the term "*subsidiaries*" is used in this agreement, its meaning is:

Every company, no matter in what country organised, in which the company of which it shall be a "subsidiary" directly or indirectly, shall have, at the time in question, the power to exercise control, either by ownership or control of a majority of the stock having the right to vote for the election of directors or by management agreement.

(I) Wherever the term "*holding companies*" is used in this agreement, its meaning is:

Every company, no matter in which country organised, which shall be, at the time in question, in effect the sole owner of the company of which it shall be a "holding company," and the subsidiaries of such holding company.

(J) Wherever the term "*companies*" is used in this agreement, its meaning is:

Individuals, partnerships, firms, companies, associations, corporations, and all other business units.

In all defined terms herein the singular shall include the plural, and *vice versa*.

ARTICLE III

The provisions of this Agreement apply to the territory of the British Empire and mandated territories, as at present constituted, hereinafter referred to as the EMPIRE, but to no other country.

ARTICLE IV

(a) I. C. I. shall deliver at the point or points of production to the nominees of I. H. P. hereinafter called "Oil Companies," and in the pro-

portions specified by I. H. P. its production of the hydrogenation products named in subdivision (A) of Article II hereof, as, when, and to the extent that those products become available, which shall be accepted by the Oil Companies provided they are of good merchantable quality.

It is recognised that I. C. I. products of good merchantable quality may not conform to any existing specifications for standard grades of Oil Companies' products intended for the same uses, whereas such I. C. I. products may be made to conform to such specifications by blending with reasonable proportions of available petroleum products. In such event I. H. P. agrees that the Oil Companies will, in consultation with I. C. I., arrange for such blending in the most efficient manner, and on the principle that any extra cost resulting therefrom shall be debited to I. C. I., whilst any saving of freight realised by the Oil Companies as a result of the blending operation, will be credited to I. C. I.

I. C. I. shall give to each Oil Company currently reasonable notice in advance as to the quantities and qualities of each product each Oil Company will approximately receive, such notices to be given at the latest prior to the 1st of October of each year for the next year and to be revised if necessary in the second month of each yearly quarter for the next following yearly quarter.

(b) The price to be paid by each Oil Company to I. C. I. for the said products so delivered shall be the weighted average net realization price of the year in which the products are sold ending each 31st of December (after deduction of petrol or similar taxes or duties, but with allowance for any portion of such taxes or duties from which I. C. I. products are exempt) obtained by that company over the whole of the market in question for products of the same grade and quality, calculated on the assumption that I. C. I. products moved through the distribution system of that Oil Company at the average rate of movement of all its products of the same grade and quality, less expenses of distribution.

Provisional payments on account of the delivery of I. C. I. products shall be made within 30 days after the 31st of March, the 30th of June, the 30th of September and the 31st of December of each year, on the basis of the weighted average net realisation price of the preceding quarter, or if such figures are not available, on the basis of the latest available figures taken over a quarterly period.

As soon as possible after the 31st of December of each year as definite figures may be available, a final adjustment of the provisional payments shall be made.

I. H. P. will upon request supply to I. C. I. from time to time such information as may be necessary to enable I. C. I. to determine the net price, after having made also allowance for the marketing fee to be paid by I. C. I. as provided for in subclause (A) of Section 1 of Article XI hereof, it would have received for its goods deliverable to the Oil Companies from any proposed hydrogenation plant then under study by I. C. I.,

such figures to be from the nearest accounting period available to the Oil Companies.

It is agreed that England, Scotland, and Wales together shall constitute a single market.

(c) (1) In the event of I. C. I. products being marketed separately as home produced products and an additional price, realized therefor, I. C. I. shall be paid such additional realized price (i. e., the price after deduction of any additional marketing costs necessarily incurred in marketing the products separately) after making the deductions and allowances provided in paragraph (b) of this Article IV.

(2) In the event, so long as, and to the extent that any Government action in any country of the EMPIRE fixes and secures to I. C. I. a definite selling price for any products produced by the Hydrogenation Process in such country, I. C. I. shall be relieved in such country of its obligation to deliver and the Oil Companies shall be relieved in such country of their obligation to take such products on which the price is thus fixed and secured, but I. C. I. undertakes that it will not be interested directly or indirectly in the business of distribution of such products provided that "distribution" in this clause shall not be deemed to include delivery to depots of importers of oil or of wholesale distributors of oil which delivery any Government may require I. C. I. in application of the Government action above-mentioned to assume responsibility for, and in the event of such delivery being so required I. C. I. will use its best endeavours to utilize the facilities of the Oil Companies therefor on terms to be arranged.

ARTICLE V

I. C. I. shall purchase from the nominee of I. H. P. its total requirements of petroleum and/or its products for hydrogenation, price to be current market.

ARTICLE VI

1. Notwithstanding the provisions of Article IV paragraphs (a), (b), and (c) (1) I. C. I. shall be at liberty to contract with any Government of the EMPIRE for deliveries of the requirements of such Government for the actual consumption of its services of the hydrogenated products referred to in subclause (A) of Article II hereof. In such cases Article IV paragraph (c) (2) will not apply but I. C. I. will arrange under such contract that deliveries in pursuance thereof shall either be:

(a) Deliveries of Oil Companies' products of the same grade and quality as that contracted for (hereinafter referred to as (a) deliveries); or

(b) Deliveries of I. C. I. products through the Oil Companies (hereinafter referred to as (b) deliveries).

2. In the case of (a) deliveries each Oil Company will deliver its own products on behalf of I. C. I. ex such depots as may most conveniently meet Government requirements, and I. C. I. will deliver to that Oil Company at the point or points of production equal quantities of products of

the same grade and quality. In addition I. C. I. will pay to the Oil Companies the expenses of distribution incurred by them in delivering from the Oil Companies' depots to the Government, plus the actual freight which would have been incurred in getting the same products from the I. C. I. point of production to the Oil Companies' depot from which the Government requirements can be most cheaply supplied, by sea or rail whichever may be the cheapest method. In addition, in the event of there being attached to Government deliveries conditions which result in especial cost to the Oil Companies which they do not normally incur in connection with their distribution to other customers, I. C. I. will refund such extra cost to the Oil Companies. On the other hand the Oil Companies will credit to the account of I. C. I. the freight which would have been incurred by the Oil Companies in the movement of products to the point of consumption of such products from the most favourably situated Oil Company's depot from which the Oil Companies are usually supplying such point of consumption, *less* the freights actually incurred by the Oil Companies in supplying such point of consumption from the point at which delivery is made by I. C. I. to the Oil Companies, provided however, that if the latter item shall be the greater no debit or credit to I. C. I. shall be made.

3. In the case of (b) deliveries, each Oil Company will charge the actual freight and the expenses of distribution incurred by them in getting those products from the I. C. I. point or points of production to the point where they must be delivered to the Government, plus the exceptional cost, if any, to them owing to any special conditions attached to the Government deliveries.

4. The freights for (a) deliveries shall be calculated on the assumption that the products delivered to each Oil Company by I. C. I. were moved from the point or points of I. C. I. production via the Oil Companies' depots to each point of delivery to the Government, of products of the same grade and quality supplied by the Oil Company in question in reasonably large quantities such as the Oil Company in question would itself move such product for such particular Government business by the cheapest transportation method.

5. The freights for (b) deliveries as specified in this Article VI will be arranged by the Oil Companies in accordance with the principle that the products will be moved from the I. C. I. production point or points in reasonably large quantities such as the Oil Company in question would itself move such product for such particular Government business and by the cheapest transportation method.

ARTICLE VII

I. C. I. shall be required to maintain the same standard of antiknock quality as the same grade of products supplied by the Oil Companies to the trade.

In the event I. C. I. products furnished to the Oil Companies are superior in antiknock to the same grade of products supplied by the Oil Companies to the trade the latter will use their best endeavours to obtain the maximum practicable special value from such higher antiknock over and above average realization for standard quality goods delivered to them by the trade, and will consider such special value an addition to the realized price.

ARTICLE VIII

The Oil Companies will, on the request of I. C. I., supply to I. C. I.'s auditors certificates in regard to any of the calculations or figures involved in Articles IV, VI, VII, and XI Section 1 subclauses (A) and (B) and I. C. I. shall have the right to review such audits by auditors nominated by it and approved by the Oil Company in question.

ARTICLE IX

1. There will be an International Hydrogenation Engineering and Chemical Company, hereinafter referred to as "The Engineering Company," for the world outside of the United States of America and Germany. The Engineering Company will possess technical information and experience of paramount importance with regard to the field covered by the liquefaction of coal and production of finished products from the crude liquid products so obtained, as well as with regard to the field covered by the hydrogenation of oil and other liquid material, because The Engineering Company will be the medium through which all technical knowledge and experience of I. H. P., Standard Oil Company, Standard-I. G. Company, a corporation of the State of Delaware, United States of America, I. G., ROYAL DUTCH, and SHELL, and of all licensees of I. H. P. is accumulated.

Working arrangements between The Engineering Company and the companion company within the United States of America will ensure full availability of all skill and technical experience in the fields referred to, throughout the world. I. H. P. will provide that I. G.'s skill and experience shall be made fully available to The Engineering Company, directly or indirectly. I. H. P. will cause The Engineering Company to bring all this general knowledge and experience to the service of I. C. I.

I. H. P. further warrants that it will cause or procure an operating subsidiary of STANDARD and/or ROYAL DUTCH-SHELL to offer to exchange with I. C. I. full information with regard to intermediate refining and final refining operations to enable marketable products to be produced from the products of the Hydrogenation Process.

I. C. I. will pay to I. H. P. for the above services quarterly fees, the amount of which shall be determined as provided in paragraph 1 of subclause (C) of Section 1 of Article XI hereof.

2. The Engineering Company will also render and make available to I. C. I. special services and will manufacture and supply catalysts. I. C. I.

will pay to I. H. P. for these services and for catalysts quarterly fees the amount of which shall be determined as provided in paragraph 2 of subclause (C) of Section 1 of Article XI hereof.

I. C. I. shall be obligated in all cases to submit plans and specifications for all proposed new hydrogenation plants and for enlargements and material alterations of existing plants to The Engineering Company for criticism, and shall be obligated to pay the fees specified in paragraph 2 (b) of subclause (C) of Section 1 of Article XI hereof, but it shall be entirely free to disregard such criticism.

I. C. I. will enter into a contract with The Engineering Company substantially in the form of Exhibit "A" hereto attached.

ARTICLE X

I. C. I. proposes to erect a plant for the liquefaction of coal by the Hydrogenation Process. The parties recognize that I. C. I. has and will have valuable technical information and experience concerning the liquefaction of coal by the Hydrogenation Process.

I. C. I. agrees that it will supply I. H. P. or its agent, The Engineering Company, or any other Company designated by I. H. P., but to no other company save its own licensees, all technical information and experience relating to the Hydrogenation Process which it may thus obtain. I. H. P. and The Engineering Company shall have the right to furnish such information to others.

As consideration for such agreement by I. C. I., I. H. P. shall sell to I. C. I. and I. C. I. agrees to purchase from I. H. P. at par a participation of 10 percent in the capital of The Engineering Company, but only up to a maximum par value of 120,000 guilders currency of The Netherlands. In lieu of common shares I. C. I. shall receive 6 percent cumulative preference shares ranking *pari passu* with all other preference shares, and in addition I. C. I. shall be entitled to the payments as provided for in Section 2 of Article XI hereof.

I. C. I. agrees not to sell, assign, transfer, set-over, or otherwise dispose of any of said shares during the currency of this agreement without giving to I. H. P. the first refusal upon the same terms offered by any *bona fide* prospective purchaser.

Upon termination of this COMMERCIAL AGREEMENT I. H. P. shall have an option, to be exercised within 60 days after the date of such termination, to purchase all such shares from I. C. I. and I. C. I. agrees to sell all said shares to I. H. P. at I. C. I.'s fair book value thereof. If I. H. P. does not exercise this option I. C. I. shall then be free to dispose of these shares to any third party.

Such participation in the 6-percent cumulative preference shares shall entitle I. C. I. as long as it does not dispose of any or all of said shares to a seat on the Board of The Engineering Company. This right, however, is personal in its nature and shall not entitle any subsequent holder of said shares to the same right.

ARTICLE XI. ACCOUNTING PROVISIONS

Section 1. Payments by I. C. I. to I. H. P.

For services rendered under this contract I. C. I. shall make the following payments to I. H. P.:

(A) A marketing fee calculated on the basis of a return of 15% (fifteen percent) per annum on the then present actual value of the marketing investment used within the market itself by the Oil Company in question in distribution of I. C. I. products, before deduction of income and profits taxes in the country in question.

This marketing fee shall be treated as a deduction from the price to be paid by the Oil Companies as provided in subclause (b) of Article IV hereof. This fee shall also be payable in case of both (a) and (b) deliveries as provided for in Article VI: provided however, that in the event of Government considerations rendering it prejudicial to I. C. I. not to be able to deliver direct to any Government of the EMPIRE wholly or partly that Government's requirements, I. C. I. shall be at liberty to deliver direct to such Government, but in such case the parties hereto shall discuss and agree, before such deliveries are contracted for, upon whatever consequential adjustment between them is deemed equitable on account of such direct deliveries. The principle for arriving at such adjustment shall be that the Oil Companies are entitled to receive the same 15% (fifteen percent) marketing fee (before deduction of taxes) specified in this subclause (A), calculated as herein provided.

The marketing investment used within a market in distributing I. C. I. or Oil Companies' products in that market shall be assumed to be that proportion of the total marketing investment of the Oil Company in such market used in the distribution of products of the same grade and quality as the I. C. I. products, which the amount of products delivered by I. C. I. bears to the total amount of products of the same grade and quality delivered by the Oil Company in question in such market.

(B) The expenses of distribution to be paid by I. C. I. referred to in Articles IV and VI hereof exclusive of freights attributable to I. C. I. deliveries in a market, shall be the Oil Companies' average expense of distribution in that market of products of the same grade and quality ascertained in accordance with the Oil Companies' present practice for accountancy purposes, provided that such practice may be changed from time to time to accord with recognised and generally accepted methods of accounting in the industry.

There is attached hereto an exhibit, marked Exhibit "B," showing the form of a present typical accounting schedule for expenses of distribution of an Oil Company. It is to be noted that this schedule does not include the freights which freights must therefore be added to arrive at the total expense of distribution.

Expenses of distribution so far as they consist of internal and coastwise

freights, other than freights relating to (a) and (b) deliveries shall be calculated on the assumption that the products delivered to each Oil Company by I. C. I. were supplied *pro rata* to the current consumption from the nearest point of I. C. I. production to each point of consumption of products of the same grade and quality supplied by the Oil Company in question in reasonably large quantities, such as the Oil Company in question would itself move such product, and by the cheapest transportation method.

(C) A fee for all information and services rendered in accordance with Article IX hereof, to be determined as follows:—

1. For general information and services as provided for in Article IX, subclause 1.

Basic Scale

(a) For all liquefied coal produced	\$560 per 1,000 tons
(b) For all oil charged to the Hydrogenation Process (except liquefied coal for which payment has been made under paragraph (a) of this basic scale)	350 per 1,000 tons
(c) For all final products made from liquefied coal or oil, an amount based upon quantity and quality of such final products, before treatment by processes other than the Hydrogenation Process, as follows:	
Upon the total lubricating oil content	2,660 per 1,000 tons
Upon the gasoline content	350 per 1,000 tons

And, in addition, the premium fees for premium quality antiknock gasoline as provided in Schedule A hereto annexed, provided always that such premium fees are only payable—

(i) In case of both (a) and (b) deliveries to the Government for the actual consumption of its services.

(ii) In the case of deliveries to the Oil Companies directly and the Oil Companies succeed in obtaining special value from such higher antiknock, over and above average realization for standard quality goods delivered to them by the trade as provided for in Article VII hereof, provided that in no instance shall the premium fees be as great as the special value returned to I. C. I.

Upon the kerosene content	\$210 per 1,000 tons
Upon the content of all other products	140 per 1,000 tons

The quantity and quality of all final products shall be determined in accordance with the Accounting Schedule and with Schedule A annexed hereto, provided that nothing contained in the said Schedules shall be construed to prevent the practice of the Hydrogenation Process in the most efficient manner, and if and to the extent that it is impracticable to

apply said Schedules under those conditions, an alternative method of determining the quantities and qualities of liquefied coal and/or final products shall be agreed upon, such method to give the same financial return to I. H. P. as accurately as possible, as though the Schedules were followed.

For the purpose of this agreement it shall be assumed that a ton of any product consists of 7 (seven) barrels.

Actual Scale

The actual payments to I. H. P. shall be related to the basic scale above given in the following manner—

For the first standard unit in operation	104% of the basic scale
For the second standard unit in operation	102% of the basic scale
For the third standard unit in operation	99% of the basic scale
For the fourth standard unit in operation	95% of the basic scale
For the fifth standard unit in operation	90% of the basic scale
For the sixth standard unit in operation	85% of the basic scale
For the seventh standard unit in operation	80% of the basic scale
For the eighth standard unit in operation	75% of the basic scale
For all further standard units in operation	70% of the basic scale

A standard unit shall be assumed to be a unit (or a number of units) producing or treating 5,000 (five thousand) barrels a day over a quarterly accounting period.

In the case of oil the quantity unit shall be taken as the oil charged to the Hydrogenation Process. In the case of coal as the liquefied coal produced.

For the purpose of classifying a certain standard unit under the actual scale, only units which have been actually in operation during the current quarterly accounting period shall be taken into account. For example, no unit or units shall be assumed to be the second standard unit unless another standard unit is actually in operation during the current quarterly accounting period, and no unit or units shall be assumed to be the third standard unit unless there are two other standard units actually in operation during the current quarterly accounting period, and so forth.

Accounting Schedule

I. C. I. shall keep accurate and true books of account in which shall be entered the quantity of oil charged to the Hydrogenation Process and all liquefied coal produced, and all final products of the Hydrogenation Process, and the results of the assay of final products of the Hydrogenation Process in accordance with Schedule A hereto annexed. For the purposes of keeping such accurate accounts, I. C. I. shall establish, maintain, and operate proper facilities for separately accumulating each class of liquid products in definite batches, upon delivery to and before removal from the hydrogenation plant site. Initial production of liquefied coal shall be

separately accumulated. All such batches shall be accurately measured upon delivery to the hydrogenation plant site (in the case of liquefied coal on initial production), and in the case of final products before removal from the hydrogenation plant site, and a sample of each batch of final products shall be taken in accordance with Schedule A, which samples shall be subjected to assay by I. C. I. according to the said Schedule A. I. H. P. and its agent, The Engineering Company, shall have the right of entry to I. C. I.'s plants at any reasonable time for the purpose of checking the maintenance and operation of such facilities and the accuracy of same, including the right to take and assay samples for purposes of comparison. I. H. P. and its said agent shall have, at all reasonable times, the right to inspect such books of account. Such accounts shall at all times be kept up-to-date, complete entries therein to be made currently as the figures become available.

As soon as I. C. I. shall have undertaken the operation of the Hydrogenation Process, I. C. I. shall make and send to I. H. P. by mail quarterly on or before the 20th day of January, April, July, and October of each year a statement in writing taken from its said books showing the total quantities of all materials treated during the preceding quarter required for the determination of the fees referred to in this Article XI, Section 1, subclause (C), paragraph 1 hereof and each such statement shall be accompanied by payment in full in gold coin of the United States of America of or equal to the standard of weight and fineness as of the 1st of June 1930 of the amount of the fees due provided that if I. C. I. shall submit with such statement a declaration under seal of I. C. I. together with satisfactory evidence supporting the same to the effect that some specified part or all of the final products accounted for and classified as lubricating oil in such accounting was, in fact, or must be put into consumption as a product of value materially lower than lubricating oil, then I. C. I. may include proffered payment of the fee for such products so put into consumption or necessarily to be put into consumption at the rate of \$140 per 1,000 tons in lieu of \$2,660 per 1,000 tons, and if upon investigation by I. H. P.'s said agent, The Engineering Company, such evidence, or any additional evidence made available by I. C. I. within 30 (thirty) days, shall fully support said declaration, then said proffered payment shall be accepted. If in the judgment of I. H. P.'s said agent the evidence made available to it within 30 (thirty) days after said proffer of payment shall not fully support said declaration I. C. I. shall be obligated to make immediate payment for the product in question at the rate of \$2,660 per 1,000 tons upon receipt of written notice as to said decision of I. H. P.'s said agent. Following such payment I. H. P. agrees that it will, upon request of I. C. I. submit to arbitration the question whether the said declaration was fully supported by said evidence made available.

Such arbitration shall be in accordance with the provisions of Article XV hereof and the decision of the arbitrators shall become immediately

effective. If in the judgment of these arbitrators it would be equitable to place upon such product as to which the dispute arose, a charge less than \$2,660 per 1,000 tons and greater than \$140 per 1,000 tons, the arbitrators shall have full power to fix such intermidate rate.

2. For all special services rendered by The Engineering Company as follows:

(a) For all special technical services rendered on request of I. C. I. other than those mentioned in paragraph (b) following and for catalysts, cost of services rendered and material furnished, plus 10% (ten percent), payment to be made quarterly.

(b) For all estimates, designs, specifications, and listing and supervision of construction of new plants and enlargements or material alterations of existing plants and for criticism of plans and specifications of new plants and enlargements or material alterations of existing plants, cost of services rendered, plus 4% (four percent) of the cost of the plant or enlargement or material alteration thereof, or plus \$5 on account of each ton per annum of product capacity, whichever is the grater.

Such payments shall be made quarterly on account of all expenditures on the construction in question during the current quarter provided that:

(1) I. H. P. shall accept \$1,000,000 as payment in full on account of the obligations of I. C. I. with respect to the 4 percent, or \$5-per-ton fee only under this paragraph 2 (b) by reason of the completion (to the point of beginning of regular commercial operations even though at a lower capacity) on or before the 31st of December 1933, of a plant or plants for the production of gasoline by liquefaction of coal by the Hydrogenation Process, having a total capacity of substantially 200,000 tons of gasoline per annum.

(2) If on or before the 31st of December 1933, I. C. I. shall pay to I. H. P. a total of \$1,000,000 as a credit to its account with respect to the 4 percent or \$5-per-ton fee of this paragraph 2 (b), said \$1,000,000 to be either in payment of debits to such account or partly or wholly advanced payment on such account (but in no event shall this \$1,000,000 or any part thereof be subject to repayment by I. H. P. to I. C. I.), then the said 4 percent or \$5-per-ton fee provided for in this paragraph 2 (b) shall be reduced by one twenty-eighth part for each year, beginning the 1st of January 1934, and ending the 31st of December 1947, and shall remain at 2 percent or \$2.50 thereafter for the currency of this agreement.

For the purpose of this paragraph 2 (b), the completed installation shall be understood to be all constructions, improvements, and equipment in the area in which the Hydrogenation Process is operated, put in directly for, or as an aid or incident to the practice of the Hydrogenation Process, except the following items, which are specifically excluded:

- (i) Preparation, clearing, grading, draining, or piling of site;
- (ii) Trunk or main sewers;
- (iii) Water supply mains;

- (iv) Boiler plants;
- (v) Electric-power generating plants;
- (vi) Storage tanks;
- (vii) Office buildings.

Section 2. Payments by I. H. P. and the Engineering Company to I. C. I.

For services rendered under this contract The Engineering Company and/or I. H. P. shall pay to I. C. I. as soon after the end of each calendar year as the accounts may be compiled 10% (ten percent) of the net royalties (after deduction of any sum in respect of taxes upon profits or income, legally deductible therefrom) received by them or either of them on account of the liquefaction of coal under the patent rights relating to the Hydrogenation Process, and 10% (ten percent) of the profits (after deduction of any sum in respect of taxes upon profits or income, legally deductible therefrom) derived from fees for engineering services relating to the liquefaction of coal by the Hydrogenation Process received by I. H. P. and The Engineering Company from others than I. C. I. during that calendar year, including payments collected for the production of finished products obtained by the liquefaction of coal by the Hydrogenation Process, but not including any payments collected for treatment of liquid products not produced by the liquefaction of coal even though such liquid products were treated as an incident to the hydrogenation of coal, up to a total in each calendar year of 50% (fifty percent) in excess of any profits derived by I. H. P. and The Engineering Company from fees for engineering services rendered by The Engineering Company to I. C. I. on account of the construction or operation of plants for the liquefaction of coal by the Hydrogenation Process during the same year.

ARTICLE XII

Each party agrees to take reasonable precautions to prevent publication or disclosure except to I. H. P. or any company designated by I. H. P. and I. C. I. or its sublicensees, the Patent Office of any country in which any party may apply for a patent or patents, of any technical or patent information relating to the Hydrogenation Process or the production of catalysts therefor, and especially, but without limiting the generality of the foregoing, any technical instruction, knowledge, or information it may obtain from I. H. P.'s agent, The Engineering Company.

ARTICLE XIII

I. H. P. will nominate as its nominee or nominees under Articles IV, V, VI, VII, and VIII hereof one or more of the following companies, viz., a subsidiary of STANDARD or of ROYAL DUTCH-SHELL, or Anglo-Persian Oil Company, or any other Oil Company of equal standing and responsibility, and will inform I. C. I. in what proportions such nominees if more than one will take the I. C. I. products.

I. H. P. agrees that prior to the date of production of products by I. C. I. hereunder I. H. P. will offer to the Anglo-Persian Oil Company upon reasonable terms, being not more onerous than the terms upon which other Oil Companies including the STANDARD and ROYAL DUTCH-SHELL operating subsidiaries in the country in question participate a participation in the beneficial ownership of the patent rights relating to the Hydrogenation Process in any country in which I. C. I. products are to be produced and in which the Anglo-Persian Oil Company are operating, such participation in the patent rights to include the right and obligation to distribute products produced by I. C. I. under license from I. H. P. *pro rata* to the relative position of Anglo-Persian Oil Company as a distributor *vis-à-vis* all other distributors of I. C. I. products in the market in question.

In connection with this question of nomination by I. H. P. it is the intention of the parties that there will be secured to I. C. I. a fair share of the benefits and that I.C.I. will assume a fair share of the risks attaching to the marketing of products of the grade and quality of I. C. I. products in the market in question and that I. C. I. shall not be unduly prejudiced by the selection or alteration of nominees which the general activities of the oil business may require, and I. H. P. undertakes that it will not make a nomination in any market the effect of which would be so unduly to prejudice I. C. I.

ARTICLE XIV

I. C. I. agrees that it will not grant to any company the right to manufacture the products named in subclause (A) of Article II hereof except upon the condition that the party to which such right is granted shall be bound by all the material provisions of this COMMERCIAL AGREEMENT, and *vis-à-vis* I. H. P. such grantee shall be regarded as an agent nominated by I. C. I. for the purpose of carrying out and enjoying in its behalf the terms of this agreement.

ARTICLE XV

1. This contract shall be construed and the legal relations between the parties determined in accordance with the laws of England.

2. In case any question, dispute, or difference shall arise between the parties with respect to this contract or the validity or interpretation thereof or anything arising out of this contract, the same shall be referred to two arbitrators, one to be appointed by each of the parties, and in every such case in the event of the arbitrators failing to agree, the same question, dispute, or difference shall be determined by an umpire to be appointed by the arbitrators, and if the arbitrators shall fail to agree upon an umpire, such umpire may be appointed at the request of any party to the arbitration in question by the President for the time being of the Law Society in London. The umpire shall be appointed before the arbitrators enter upon a consideration of the question, dispute, or difference. Any arbitration under the provisions of this clause shall be an arbitration in ac-

cordance with the Arbitration Act of 1889 of England or any statutory modification thereof for the time being in force. The expense of such arbitration shall be borne by the parties involved in the arbitration in such proportion as shall be determined by the arbitrators or umpire.

ARTICLE XVI

This contract shall remain in force until terminated by two years' written notice served by either party upon the other which may be given at any time but not before the 31st of December, 1945.

The Common Seal of IMPERIAL CHEMICAL INDUSTRIES LIMITED was hereunto affixed in the presence of

[SEAL]

H. J. MITCHELL, *Director*.

E. N. WISE, *Assistant Secretary*.

INTERNATIONAL HYDROGENATION PATENTS COMPANY LIMITED,

By H. JACOBSON,

P. HURLL, *Directors*.

Source: Bone Committee, *Patent Hearings*, Part 7, pp. 3542 ff., 3623 ff.

APPENDIX VIII I

DIVISION OF FIELDS OF INTEREST BETWEEN STANDARD OIL NEW JERSEY AND I. G. FARBE, OF 1929

AGREEMENT made and entered into this 9th day of November 1929, by and between:

I. G. FARBEINDUSTRIE AKTIENGESellschaft, a German corporation, of Frankfurt am Main, Germany, hereinafter referred to as "I. G."; and

STANDARD OIL COMPANY, a corporation incorporated under the laws of the State of New Jersey, hereinafter referred to as "the Company."

WHEREAS I. G. and the Company are two of the four parties named in the agreement of even date herewith, a copy of which is annexed hereto, and the terms of which require close cooperation between I. G. and the Company, along technical lines; and

WHEREAS the Company recognizes the preferred position of I. G. in the industries known as chemical, and I. G. recognizes the preferred position of the Company in the industries known as oil and natural gas; and

WHEREAS neither party has any plan or policy of so far expanding its existing business in the direction of the other party's industry as to become a serious competitor of that other party, but each recognizes that certain overlapping of activities will exist;

Now, THEREFORE, with a view to preventing such overlap from becoming a source of mutual irritation and unwillingness to cooperate on technical lines as is required under said four-party agreement, the parties hereto have agreed that their policies shall be as follows:

ARTICLE I. NEW CHEMICAL DEVELOPMENTS BY THE COMPANY

If the Company shall desire to initiate anywhere in the world a new chemical development not closely related to its then business, it will offer to I. G. control of such new enterprise (including the patent rights thereto) on fair and reasonable terms.

EXAMPLES: (a) A development not related at all is the production of artificial silk by present methods.

(b) A development related but not closely related is the production of nonhydrocarbon solvents from natural gas.

ARTICLE II. NEW CHEMICAL DEVELOPMENTS BY I. G.

1. If I. G. shall desire to initiate outside of Germany (as "Germany" is defined in Article XIV of said four-party agreement) a new chemical development which cannot be advantageously carried on except as a department of an oil or natural gas business, it will offer control thereof (including the patent rights thereto) to the Company on fair and reasonable terms.

EXAMPLES: (a) The production of solvents, whether hydrocarbon or nonhydrocarbon, from olefines produced in refining oils.

(b) The production of an antiknock compound to the extent that the same shall be sold to or through oil companies.

2. If I. G. shall desire to initiate outside of Germany (as "Germany" is defined in Article XIV of said four-party agreement) a new chemical development not covered by subparagraph 1 of this Article but related to the then business of the Company, as for example by use of natural gas or petroleum products, I. G. will offer to the Company a substantial but not controlling participation.

EXAMPLES: (a) The production of fixed nitrogen from natural gas.

(b) The production of acetylene from natural or refinery gas.

ARTICLE III. DURATION OF THIS AGREEMENT

This agreement shall continue in force throughout the duration of said four-party agreement and no longer.

ARTICLE IV. SUBSIDIARIES

This agreement shall be binding upon and inure to the benefit of the subsidiaries of the respective parties hereto as provided in Article XIII of said four-party agreement, to the same extent as if said Article were incorporated in this agreement, it being understood that no subsidiary corporation of the character referred to in paragraph B of said Article XIII shall have the privilege of ratifying either the four-party agreement or this agreement without also ratifying the other.

IN WITNESS WHEREOF the parties hereto have set their hands and seals on the day and year first above mentioned.

(Attest)

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,

By (signed) SCHMITZ,
v. KNIERIEM.

STANDARD OIL COMPANY (N. J.),

[Seal] By (signed) W. C. TEAGLE.

AGREEMENT made and entered into this 9th day of November 1929 by and between:

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT, a German corporation, of Frankfort am Main, Germany, hereinafter referred to as "I. G.",

The S. I. G. COMPANY, a Delaware corporation, hereinafter referred to as "S. I. G.",

STANDARD OIL COMPANY, a corporation incorporated under the laws of the State of New Jersey, and

STANDARD OIL COMPANY OF NEW JERSEY, a corporation incorporated under the laws of the State of Delaware; said last named two corporations being hereinafter referred to jointly as "Standard."

ARTICLE I. DEFINITIONS

A. Hydrocarbon Field.—Wherever the term hydrocarbon field is used in this agreement its meaning is:

The treatment of natural gas, crude petroleum, natural or manufactured bitumens, peats, shales, lignites, coals, other carbonaceous materials, and/or products made therefrom or contained therein to produce:

1. Those marketable major products which are now commonly produced in the oil and natural gas industries. The marketable major products here referred to are, for the purposes of this agreement, the following:

- (1) Crude petroleum.
- (2) Hydrocarbon gases consisting principally of methane and/or its homologues.
- (3) Gas black.
- (4) Intermediate hydrocarbon mixtures forming the class known as naphthas.
- (5) Gasoline.
- (6) Kerosene.
- (7) Gas oil.
- (8) Fuel oil.
- (9) Lubricating oil.
- (10) Paraffine wax.
- (11) Highly purified viscous involatile hydrocarbon oils.
- (12) Saturants, binders, and road oils.
- (13) Roofing and paving asphalts.
- (14) Petroleum greases and petrolatum.
- (15) Sulphuric acid hydrocarbon sludges.
- (16) Petroleum coke.

2. Those marketable major products which shall hereafter be commonly produced in the oil and natural gas industries and shall be of a commercial importance corresponding to the present commercial importance of a present major product as listed in subparagraph 1.

3. Other products which, though different in chemical structure from said major products of subparagraphs 1 and 2, have the same properties to a degree which permits their use for the same purpose or purposes; but to produce said other products only to the extent that they are used for such purpose or purposes.

(EXAMPLE: Accordingly, processes for the production of aromatic hydrocarbons and methanol come within the field so far as these products are used as antiknock substances or as motor fuel. They do not come within the field when intended for use as raw materials for dyestuffs and explosives in the case of the aromatic hydrocarbons, or as solvents in the case of methanol.)

The parties recognize that the above field definition may not be adequate to cover all situations which may arise. For example, certain products now or hereafter produced may present border-line cases, and a single process may produce products falling both within and without the field. With respect to all such situations in which any party shall feel that said field definition does not adequately determine the rights of the parties, the parties agree to enter into negotiations to the end of reaching an agreement which is equitable in the right of the spirit of the present agreement.

B. Hydrogenation process.—Wherever the term hydrogenation process is used in this agreement its meaning is:

Any process coming within the hydrocarbon field which is carried out by or in the presence of added hydrogen or hydrogen carriers, with or without catalysts, to a degree or extent or in a manner to secure definitely determinable hydrogenation or which is used in conjunction with the hydrogenation step for the preparation of raw materials for hydrogenation, including hydrogen, or for the separation and refining of the products produced by the hydrogenation step itself. Accordingly, the term hydrogenation process denotes a specific class of processes lying within the hydrocarbon field.

C. Patent Rights.—Wherever the term patent rights is used in this agreement its meaning is:

Patents, application for patents, divisions, renewals, reissues, and extensions of patents and applications and transferable interests in any of the foregoing. Every reference herein to the patent rights of a party hereto is intended to comprise those of which the party has now or shall have hereafter during the term of this agreement the ownership or control in the sense of having the power to dispose of them or grant licenses thereunder, insofar as it is not precluded from so doing or bound to account to others for so doing by contracts with others in force on the date of execution of this agreement, nor shall a party be deemed to have ownership or control of a patent right because such patent right is owned or controlled by a corporation which is not in effect the sole property of that party. In the case of patent rights originating with a party as through the invention of its employees, the date of acquisition shall be assumed to be the date of the first application for patent thereon. In the case of other patent rights it shall be the actual date on which the party obtains control of such patent rights.

The expression "patent rights relating to the hydrocarbon field (or to the hydrogenation process)" shall include both

(a) those patent rights which relate wholly or principally to that field (or that process) and

(b) those which are useful in that field (or that process) and are also useful to a substantial degree in other fields (or other processes).

but in the latter case (b) only insofar as they are useful in that field (or that process).

ARTICLE II. GRANT OF I. G. PATENT RIGHTS TO S. I. G.

A. I. G. hereby assigns and agrees to assign to S. I. G. all of its patent rights outside of Germany which relate wholly or principally to the hydrocarbon field. This assignment shall be subject to an exclusive license (excluding also S. I. G.) and right to license others, reserved by I. G., under said patent rights, for all purposes outside of said field. The reserved exclusive license and right to license others shall be royalty free, shall run for the life of the patents in question, and shall be freely transferable by I. G. I. G.'s patent rights assigned by this paragraph include the patents and applications for patent listed in Schedule A annexed hereto, it being understood that the omission from said Schedule of any patent rights owned by I. G. and coming within the scope of said assignment shall not exclude them from the assignment. The prosecution of all patent applications, present and future, assigned to S. I. G. under this paragraph shall be under the direction and at the expense of S. I. G. I. G. agrees to assist in such prosecution as requested by S. I. G., the reasonable cost of such assistance to be paid for by S. I. G.

B. Under I. G.'s patent rights outside of Germany which are useful in the hydrocarbon field, but are also useful to a substantial degree in other fields, I. G. grants and agrees to grant to S. I. G. an exclusive license (excluding also I. G.) and right to license others, but only insofar as they are useful in the hydrocarbon field. This exclusive license and right to license others shall be royalty free, shall run for the life of the patents in question, and shall be freely transferable. I. G.'s patent rights under which a license is granted by this paragraph include the patents and applications for patent listed in Schedule B annexed hereto, it being understood that the omission from said Schedule of any patent rights owned by I. G. and coming within the scope of said license grant shall not exclude them from the grant. The prosecution of all patent applications, present and future, under which a license is granted to S. I. G. by this paragraph shall be under the direction and at the expense of I. G. S. I. G. agrees to assist in such prosecution, as requested by I. G., the reasonable cost of such assistance to be paid for by I. G.

C. I. G. warrants its title to the patent rights listed in the annexed Schedules A and B, and warrants that there are no outstanding rights or licenses thereunder within the hydrocarbon field. The limit of liability of I. G. under this warranty shall be the consideration paid and payable

by S. I. G. to I. G. for said patent rights, as provided in Art. IV hereof. No warranty as to the validity of any patent rights transferred under this agreement is given by I. G.

D. The party holding title to any patent right coming under Paragraphs A or B of this Article shall have the first responsibility for protecting such right, including the payment of all taxes thereon, and each party shall keep the other informed of the status of all taxes thereon, and each party shall keep the other informed of the status of each such right. If either party shall desire to abandon or permit to forfeit or lapse any patent right within his control, he shall first offer to transfer the control of same to the other party to permit that party to take any action required to maintain the patent right. No such transfer shall, however affect the substantial rights of the parties under such patent right.

E. At any time I. G. may without regard to this agreement dispose of, or otherwise deal with, any of its patent rights and/or experience which do not at that time relate to the hydrocarbon field. If hereafter changes within the oil and/or natural gas industries cause the patent rights and/or experience so disposed of or dealt with to become related to said field, the rights of S. I. G. thereto under this agreement shall be subordinate to the rights of third parties acquired while said patent rights and/or experience did not relate to said field.

ARTICLE III. GRANT OF STANDARD PATENT RIGHTS TO S. I. G.

Standard hereby agrees to assign to S. I. G. all of its own patent rights relating to the hydrogenation process outside of Germany, reserving a simple nonexclusive, nontransferable royalty-free license for itself under its said patent rights.

ARTICLE IV. PARTICIPATION IN S. I. G. LICENSING REVENUE

A. S. I. G. obligates itself for the period of this agreement not to engage in any business save that of granting licenses under or transferring interests in patent rights coming within the hydrocarbon field and assigned to it under this agreement by Standard or I. G. S. I. G. proposes to issue licenses under the patent rights assigned to it under Article II and III hereof (including in such licenses the benefits of the experience of I. G. and Standard referred to in Art X) to Standard and to others but only in consideration of substantial royalties payable to it and upon a fair and as nearly as may be, a uniform basis, having regard for the license (including experience) reserved by Standard under its own patent rights.

Licenses would probably be granted in one, or a combination of two or more, of the following three forms:

1. Unlimited paid-up licenses.
2. Limited paid-up licenses.
3. Straight operating royalty licenses.

Each license, whatever its form, would bear its proper relation to the others as regards consideration received.

Of all such royalty payments including cash, free shares, or other consideration, received by S. I. G., 20% will be paid or assigned currently as received to I. G., except that where a license is granted in which the consideration for the use of the patent rights relating to the hydrogenation process only is on the basis of a straight operating royalty alone, coming within one of the three following paragraphs:

a. Based solely on oil (including all liquid material) charged and/or on some or all of the products obtained.

b. Based solely on some or all of the liquid products obtained from coal.

c. Based solely on any combination of a and b above, the compensation to I. G. for the use of said patent rights relating to the hydrogenation process shall be instead of the 20% above referred to, in case a, 2¢ per barrel on all liquid material charged to the process, irrespective of its origin or quality or of the products produced therefrom, and in case b, 3¢ per barrel on the entire amount of crude liquid products (paraffine included, gases and unconverted carbon and ash excluded) derived from the hydrogenation of coal, provided however, that I. G. shall not be entitled to the 2¢ per barrel on oil charged to a licensed oil treating process, if that oil has been produced from coal and the prescribed compensation of 3¢ per barrel has been paid to I. G. upon it. These payments of 2¢ and 3¢ respectively, shall be made currently within sixty days after the accrual dates of the royalties as fixed by the licenses and shall continue for so long as any licensee through S. I. G. continues to hold his license on a straight operating royalty basis alone, regardless of whether the royalties provided in such license be greater or less than 5 times the said sums, and of whether said payments increase, decrease, or become nil during the term of the license, provided that S. I. G. shall not be obligated to make any such payments after the expiration of this agreement, except as covered in Art. XVII.

S. I. G. agrees that in every case in which a license involving an operating royalty as the entire consideration or any part thereof, is granted under the patent rights relating to the hydrogenation process in conjunction with other patent rights relating to the hydrocarbon field, it will specify in the license the divisible part of the consideration that is to be paid for the use of the patent rights relating to the hydrogenation process. If such divisible part of the consideration is an operating royalty coming within paragraphs a, b, c, above, then I. G.'s share of such divisible part of the consideration shall be 2¢ per barrel or 3¢ per barrel as provided above. If such divisible part of the consideration is on a basis not coming within said paragraphs a, b, c, then I. G.'s share thereof shall be 20%. In all cases I. G.'s share of the part of the consideration for the use of

patent rights relating to the hydrocarbon field but not to the hydrogenation process, shall be 20%.

The examples included in Schedule C annexed hereto illustrate the intended operation of this Article.

If within two years from the date of this agreement S. I. G. shall put into effect in the United States a mutualization plan for licensing the patent rights relating to the hydrogenation process, then the compensation in full to I. G. from S. I. G. for and on account of all licenses for the hydrogenation process issued under such plan shall be 2¢ per barrel on all liquid material charged and 3¢ on all liquid products obtained from coal as above provided, instead of 20%. A mutualization plan of licensing shall be one in which the licensees themselves own the patent rights or the exclusive licensing rights thereunder.

B. All proceeds derived by S. I. G. from the patent rights assigned to it under this agreement shall be paid over in the following order of precedence:

- (a) To I. G. the amounts provided in Par. A. hereof.
- (b) To S. I. G. its expenses of carrying on business.
- (c) To S. I. G. as compensation to it for carrying on the business, \$11,000 per annum or such portion thereof as remains in each year after the payment of (a) and (b).
- (d) To Standard Oil Company of New Jersey the remainder.

ARTICLE V. DEPARTURES FROM ARTICLES III AND IV

Standard may refrain from making the assignment to S. I. G. as provided in Art. III and S. I. G. may depart from the proposed licensing plan of Art. IV so long as the result as far as the interests of I. G. are concerned, shall be the same as though the said assignment were made and the proposed plan followed and so long as the result contemplated by Arts. III and IV is effected. For example, S. I. G. may grant to another corporation for a consideration, the patent rights for the hydrogenation process in the United States, and to a third corporation, for a consideration, the patent rights for the hydrogenation process outside of the United States. These corporations shall not be empowered to engaged in manufacturing operation, and shall be obliged to conduct the licensing of the patent rights conveyed to them under conditions the same as those imposed upon S. I. G. under Art. IV-A hereof. S. I. G. shall not be obligated to account to I. G. for the considerations received for such grants, but shall pay over the entire considerations so received to Standard Oil Company of New Jersey after deductions for its own account as provided in Art. IV-B, b & c. But S. I. G. shall be obligated to provide that I. G. receives on account of all royalty payments including cash, free shares or other consideration, received by said corporations from the licensees the compensation provided in Art. IV-A hereof to the same extent as if those licensees were licensed directly by S. I. G.

ARTICLE VI. GENERAL LICENSING POLICY

Standard and S. I. G. declare that it is their intention to license the patent rights relating to the hydrogenation process transferred by I. G. as well as those transferred by Standard, whether or not the same are assigned to S. I. G., generally in the U. S. They cannot as yet formulate any policy for licensing in countries outside of the U. S., but declare that in their present judgment the rights relating to oil should not be restricted in use to Standard or to any other single unit of the oil industry in any large proportion of the world outside of the United States.

ARTICLE VII. STANDARD AND S. I. G. CONTINUATION OF I. G.'S PRESENT
NEGOTIATIONS WITH OTHERS

A. I. G. has entered into negotiations on matters relating to the hydrogenation process with a French group and a French, Belgian, Luxembourgian group, which negotiations have the purpose of introducing the hydrogenation process into France, Belgium, and Luxembourg. These negotiations look toward the licensing of the above groups under I. G.'s patent rights, the rendering of technical assistance by I. G. and the mutual exchange of experience. A running royalty on the finished products was mentioned as compensation for I. G. with an additional option on shares of the operating companies for I. G., or in the alternative, a reduction in the license rate to be paid for in shares.

B. I. G. has not entered as yet, into any agreement. However, there is a certain moral obligation on the part of I. G. to continue the negotiations. Standard and S. I. G. acknowledge this and agree to continue the negotiations in place of I. G. on the above basis without guaranteeing that a final contract shall result. In the event any contract is made the compensation from the aforesaid groups would be payable to S. I. G., I. G. participating only as provided by the other Articles of this contract.

ARTICLE VIII. GRANT OF STANDARD AND S. I. G. TO I. G. AND CROSS LICENSING

A. Standard and S. I. G. grant and agree to grant to I. G. simple non-exclusive licenses for Germany under their respective patent rights relating to the hydrocarbon field. These licenses shall be royalty free, but shall not be transferable.

B. Standard and S. I. G. grant and agree to grant to I. G. exclusive licenses (excluding also the licensors) for Germany under their patent rights relating to the hydrogenation process. These licenses shall be royalty free, but shall not be transferable.

C. Standard and S. I. G. grant and agree to grant to I. G. the right to grant licenses for Germany under their patent rights relating to the hydrogenation process to any licensee of I. G. who shall authorize I. G. to grant a simple nonexclusive, nontransferable, royalty free license to Standard for the world outside of Germany under such licensee's patent rights relating to the hydrogenation process.

D. Standard and S. I. G. agree that they will endeavor to obtain from all licensees who through Standard and/or S. I. G. become licensed under the patent rights of Standard and/or I. G. coming within this agreement, licenses and rights to grant licenses under the patent rights of such licenses, for Germany, similar to those granted to I. G. by Standard and S. I. G. under paragraphs A, B, and C of this Article.

ARTICLE IX. PURCHASED PATENT RIGHTS

All assignments and grants of patent rights which are herein made or agreed to be made by Standard or I. G. to S. I. G. are subject to the following provisions insofar as they relate to patent rights hereafter purchased by Standard or I. G. from others.

If such patent rights are offered for purchase to Standard or I. G., the one to which the offer is made shall, if the matter appears to be important to the other, and it shall be practicable to do so, seek the cooperation of the other in making such purchase, with such fair distribution of the total expense as may be then agreed upon. The refusal of the other to cooperate in and share the expense of any such acquisition shall release the acquired patent right in every way from the operation of this agreement, but the patent right may be brought under this agreement to the extent that the acquiring party still holds the same, at any time upon payment by the other of its equitable share of the purchase price.

ARTICLE X. EXCHANGE OF EXPERIENCE

A. The parties agree to work together on the technical development of the hydrocarbon field, to communicate to each other during the life and within the scope of this agreement all technical knowledge and experience, past, present, and future, patented and unpatented, of which the parties are now possessed or shall hereafter be possessed in the sense of having the power to dispose of them, and also to help each other in their efforts to obtain adequate patent protection.

B. Any party may pass to its licensees all benefits of this Article properly relating to such license, but no party shall be obligated to work with or to give to any licensee of another party any unpatented technical knowledge or experience except through the intermediacy of that other party.

C. I. G. specifically agrees that it will not (without the approval of the other parties hereto) give to anyone for use outside of Germany the benefit of any of its technical knowledge or experience relating to the hydrogenation process, provided, however, that with reference to its technical knowledge and experience which is applicable both to the hydrogenation process and to other processes, I. G. shall be free to give the benefit thereof to others, but only to the extent that it is applicable to such other processes.

ARTICLE XI. INTERNATIONAL FREE TRADE

Each party agrees that upon the request of the other it will waive such right as it may have to enforce its exclusive patent rights, or any of them,

for processes in the hydrocarbon field, against products sold for export by the other or licensees of the other and imported into the territory, or any part thereof, which is covered by said exclusive patent rights.

ARTICLE XII. ASSIGNMENT OF AGREEMENT

Any party may assign the whole or any part of the rights and benefits accruing to it under this agreement, with or without assignment of these obligations which are not personal and inseparable from the businesses of the respective parties. Any assignment of obligations by one party shall, however, not be effective as regards the responsibility of the assigning party to the other parties in respect thereto.

ARTICLE XIII. SUBSIDIARIES

A. This agreement shall be binding upon and shall inure to the benefit of the parties hereto (and the successors of substantially their entire businesses, respectively) and all subsidiary corporations which are in effect the sole property of any of the parties. Such subsidiaries shall be deemed for the purposes of this agreement only, to be one with the party to whom they are subsidiary.

B. Subsidiary corporations not in effect the sole property of one of the parties, shall, as between the parties hereto, have the option of ratifying this agreement within three months of its date, or within three months after the subsidiary relationship is established, whichever is the later, and agreeing to consider themselves, for the purposes of this agreement, as one with the party to whom they are subsidiary, or of remaining strangers to the agreement in all respects.

C. "Subsidiaries" as used herein shall include corporations of which more than 50% of the voting rights is owned or controlled by one of the parties. A subsidiary of any subsidiary of a party shall be considered a subsidiary of the party, and the same shall be true of a subsidiary to any degree.

D. Each party shall advise the others of each ratification of this agreement by a subsidiary.

ARTICLE XIV. DEFINITION OF GERMANY

For the purposes of this agreement Germany shall mean all territory to which German patents now apply.

ARTICLE XV.—OBLIGATIONS AND GUARANTEE OF STANDARD OIL CO. (N. J.)

The obligations of Standard Oil Co. (N. J.) hereunder, if and so long as it shall remain merely a holding company, are limited to causing its subsidiaries which are in effect its sole property, to carry out said obligations and Standard Oil Co. (N. J.) hereby guarantees the obligations of

its said subsidiaries under this agreement, and it further guarantees the obligations of S. I. G. hereunder.

ARTICLE XVI.—TERMINATION OF OLD AGREEMENT

As of the effective date of this agreement, a certain agreement between I. G. and the Standard Oil Company, a New Jersey corporation, dated September 27, 1927, is declared to be terminated.

ARTICLE XVII.—DURATION OF AGREEMENT

A. This agreement shall be effective November 9, 1929, and shall remain in force until terminated by two years written notice served by any party upon the others but no such notice shall be served prior to December 31, 1945.

B. All patent rights, including licenses, (save those covered in paragraph D hereof), which are or may be assigned or granted by any party to another by or in accordance with this agreement shall continue to be held and enjoyed by the party so acquiring them until the expiration of the respective patents, even though this agreement shall have earlier terminated, but no party shall be obligated to give to any other any technical assistance or experience with relation to surviving patent rights after the expiration of this agreement.

C. Neither Standard nor S. I. G. shall be obligated to make any payments to I. G. except as covered in paragraph D hereof, after the termination of this agreement, save for and on account of licensing revenue coming within this agreement and accruing before its termination but actually paid after such termination, but I. G. shall continue to hold and enjoy its participation in any compensation paid or accruing before the termination of this agreement, even though such payment shall cover in part rights obtained by the licensee enduring beyond the term of this agreement.

D. Excepted from the provisions of paragraphs B and C of this article, shall be patent rights of I. G. relating to the hydrocarbon field but not to the hydrogenation process and acquired by I. G. subsequent to December 31, 1941. These excepted patent rights may, before the expiration of this agreement, be licensed by S. I. G. to others for the full term of the patents in question, but S. I. G. shall be obligated to account to I. G. as provided in Art. IV hereof in respect to any revenues received from such licenses for the full term thereof, notwithstanding the same may extend beyond the life of this agreement.

E. Effectiveness as of the date of termination of this agreement S. I. G. shall reassign to I. G. all patent rights coming within Paragraph D, subject to such licenses as may theretofore have been granted thereunder. As to such licenses, this reassignment shall not affect the obligations of the licensee or the participation of the parties in the royalties to be paid.

In witness whereof the parties hereto have caused this agreement to be executed by their duly authorized officers in the city of Jersey City, State of New Jersey.

Attest:

[SEAL]

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,
(Signed) H. SCHMITZ,
v. KNIERIEM.

By (Signed) FRANK A. HOWARD.

STANDARD OIL COMPANY (N. J.),
By (Signed) W. C. TEAGLE.

STANDARD OIL COMPANY OF NEW JERSEY,
By (Signed) C. G. BLACK.

Source: Bone Committee, *Patent Hearings*, Part 7, pp. 3444 ff and 3451 ff.

APPENDIX IX

EXCERPTS FROM POLISH AND CZECHOSLOVAK OFFICIAL CARTEL REGISTERS

I. POLAND

Polish firms that participated in national and international cartels were required to register with an official cartel agency. A governmental document listing national and international cartels in which Polish firms participated appeared as Volume 28 of the official publications of the Central Statistical Office of Poland. The publication contained the names of existing agreements. It is unknown to the writer whether, after 1935, additional official reports were printed. The Polish Telegraph Agency in Warsaw published the *Political and Economic Yearbook* containing a supplementary list of cartels in 1938. The following list is an excerpt from the above-mentioned documents. According to the official publication of 1935, at the end of 1934 there were one hundred and eight international cartel agreements in which Polish members shared.

In the following list most of those agreements which have already been treated in the case studies are omitted. It may be significant that most of the Central European cartels pertained only to home market protection.

Benzene.

Agreement concerning benzene with Germany

Chemicals.

European Prussiate Convention with members from Germany, England, and Holland

Agreement concerning the export and import of sulphuric acid with members from Germany, Austria, and Czechoslovakia

Agreement concerning hydrochloric acid and Glauber's salts with members from Czechoslovakia and Germany

Agreement concerning potash and potassium salts with Germany and France

Agreement concerning chrome alum with Germany

Agreements concerning superphosphates with Germany, Denmark, Austria, and Switzerland, apart from the general international cartel of superphosphates

Agreement concerning lithopone with Germany

Agreement concerning carbolic acid with Germany

Coke.

Export Convention with Germany in regard to exports from Germany and Poland destined for the Austrian market.

Combed Wool.

An agreement between Poland, England, France, Belgium, Germany, Italy, and Czechoslovakia is listed but no details about it are given. It is not likely that this agreement influenced the market except in regard to minor trade terms.

Iron and Steel.

As mentioned before, Poland was a member of most of the major international steel cartels. In addition, within and outside the framework of the large international cartels, Poland had agreements with Germany, Czechoslovakia, Hungary, Austria concerning pig iron, rolled semi-finished and finished steel products including articles such as screws, rivets, shovels.

Pencils.

Convention concerning lead pencils imported to Poland by Czechoslovakia

Pharmaceuticals.

Agreement concerning aspirin with German and French firms

Shipping.

Poland was a member in many shipping conferences.

Yeast.

Export and Import Convention concerning yeast with Czechoslovak firms

II. CZECHOSLOVAKIA

According to the Czechoslovak cartel law of 1933, national and international cartels and other private monopolies were required to register with an official agency. The international cartels in which Czechoslovak firms were recorded as participating were privately published in a cartel yearbook.

The number accompanying the cartels listed below is the number given in the official register. As in the Polish cartel list above, large international cartels discussed in the case studies are omitted here.

Artificial Horn.

331. Agreement concerning artificial horn with German, English, Estonian, and Austrian producers

Automobiles.

904. Agreement concerning automobiles with France

Basic Slag.

458. Agreement concerning basic slag with German, Dutch, and Austrian firms

Chemicals.

- 923. Agreement concerning organic and inorganic chemicals except for bone glue with Hungary
- 558. Agreement concerning sulphuric acid with Poland
- 2. Agreement concerning Glauber's salts with Poland and Danzig
- 1. Agreement concerning trichloroethylene with Austria and Yugoslavia
- 226. Agreement concerning sodium superoxide with Germany and Switzerland
- 568. Agreement concerning titanium (white) with Germany
- 477. Agreement concerning fuming sulfuric acid (oleum) with Poland and Austria
- 219. Agreement concerning cyanamide with Austria, Poland, and Hungary

Copper and Brass.

- 700, 717. Agreement concerning rolled copper and brass with Hungary and Austria

Fusel Oil.

- 531. Agreement concerning fusel oil with Austrian and Hungarian groups

Gas Burners.

- 702, 705. Agreement concerning gas burners and gas burner filaments with German firms

Glass.

- 556. Crystal mirror glass and other crystal glass products were the subject of an agreement between French, German, Polish, Belgian groups
- 335. Agreement concerning exports of opal glass with Belgium

Kaolin.

- 237, 739. Agreement concerning the exporting of kaolin and kaolin products with Germany

Munitions.

- 10. Agreement concerning primers for cartridges with German and Polish firms
- 9. Agreement concerning munitions with German and Hungarian firms

Porcelain Insulators.

- 403. Agreement concerning porcelain insulators with Germany

Pottery.

- 143. Agreement concerning pottery products with Germany
- 3, 76. Agreement concerning pottery for chemical use with Germany

Pressed Wood.

- 891, 892. Agreement concerning the export of pressed wood with Austria

Steel.

Besides being a member of the large international steel cartels, Czechoslovak producers had agreements concerning pig iron, scrap iron, semi-finished steel, finished steel, certain steel products with Central European firms including those in Germany, Italy, and the Balkan countries. Most of these agreements contained provisions for home market protection.

Tiles.

144, 676. Export Convention concerning tiles used for walls and floors with Austria, and Germany

Yeast.

320. Agreement concerning yeast with Poland

Zinc.

562. Agreement concerning zinc sheets, zinc battery containers, and zinc bands with Austria and Hungary.

APPENDIX X

ABBREVIATIONS OF DOCUMENTS

GREAT BRITAIN

Great Britain Parliament, *Parliamentary Debates*, 5th series, Commons.
Cited: *House of Commons Debates*.

LEAGUE OF NATIONS

Economic and Financial, Documents. Cited: League of Nations, *Document*.

Economic Committee, Circulars. Cited: League of Nations, *Circular*.
Review of the Economic Aspects of Several International Industrial Agreements, prepared by A. S. Benni and others, 1930. Cited: Benni et al., *Industrial Agreements*.

INTERNATIONAL LABOUR OFFICE

Intergovernmental Commodity Control Agreements, Montreal, 1943.
Cited: ILO, *Intergovernmental Commodity Control Agreements*.

UNITED STATES CONGRESS

Joint Committee to Investigate the Adequacy and Use of Phosphate Resources of the United States, Public Resolution 112, *Hearings*, 1939. Cited: *Phosphate Hearings*.

Temporary National Economic Committee, Investigation of Concentration of Economic Power, Congress 76—3rd Session, Senate Committee Print, Hearings and Monographs, 1938-1941. Cited: TNEC, *Hearings*, or TNEC, *Monographs*.

UNITED STATES HOUSE OF REPRESENTATIVES

Subcommittee on Foreign Trade and Shipping, Special Committee on Post-War Economic Policy and Planning, Congress 78—2nd Session; Congress 79—1st Session; House Resolution 408 and House Resolution 60; *Hearings*, 1944. Cited: *Post-War Planning Hearings*.

UNITED STATES SENATE

Special Committee on Investigation of the Munitions Industry of the United States, Congress 74—2nd Session, Senate Resolution 206, Hearings and Reports, 1934-1936. Cited: *Munitions Hearings* and *Munitions Reports*.

Special Committee Investigating the National Defense Program, Congress 78—1st Session, Senate Resolution 6, Hearings, 1943. Cited: Truman Committee, *National Defense Hearings*.

Subcommittee of Committee on Military Affairs, Congress 78—1st Session, Senate Resolution 107 and Senate Resolution 702, Scientific and Technical Mobilization, Hearings and Monographs, 1943. Cited: Kilgore Committee, *Mobilization Hearings and Monographs*, and *Final Reports*.

Subcommittee on War Mobilization of the Committee on Military Affairs, Congress 78—2nd Session, Senate Resolution 107, Monograph No. 1, Economic and Political Aspects of International Cartels, prepared by Corwin D. Edwards, 1944. Cited: Military Affairs Committee, *Monograph No. 1*.

UNITED STATES TARIFF COMMISSION

Chemical Nitrogen, Report 114, Second Series, 1937. Cited: U. S. Tariff Commission, *Chemical Nitrogen*.

Dyes and Other Synthetic Organic Chemicals in the United States, Report 125, Second Series, 1938. Cited: U. S. Tariff Commission, *Dyes*.

Wood Pulp and Pulpwood, Report 126, Second Series, 1938. Cited: U. S. Tariff Commission, *Wood Pulp and Pulpwood*.

PAMPHLETS

International Chamber of Commerce, *International Ententes*, Paper prepared for the Berlin Meeting, 1937. Cited: *International Ententes*.

ANNUALS AND STATISTICAL YEARBOOKS

Commodity Yearbook, Commodity Research Bureau, Inc., New York. This is a yearly publication. In addition there is a Master Edition. Cited: *Commodity Yearbook*.

Compass, Finanzielles Jahrbuch, Prague, 1939. Cited: *Compass*.

The Mineral Industry, G. A. Roush, editor. Cited: *The Mineral Industry*.

Minerals Yearbook, U. S. Bureau of Mines. Cited: *Minerals Yearbook*. *Political and Economic Yearbook*, Warsaw, 1938. Cited: *Polish Political and Economic Yearbook*.

Statystyka Karteli w Polsce, Warsaw, 1935. Cited: *Polish Cartel Statistics*.

Kartellbuch der Tschechoslowakei, Karl Wolf and Jacob Ginsburg, editors, Prague, 1938. Cited: *Czechoslovak Cartel Book*.

Note: The Library of Congress (General Reference and Bibliography Division) *Cartels, Combines and Trusts*, compiled by Frances Cheney, on September 28, 1944.

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